THE Soybean Digest

"THE SOYBEAN GOES TO WAR"

Report of the 23rd Annual Convention

WAR CONFERENCE ISSUE

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OF

THE AMERICAN SOYBEAN ASSOCIATION

VOLUME 3 • NUMBER 11 • SEPTEMBER • 1943

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More Pounds of Soybean Oil

PER BUSHEL WITH

SKELLYSOLVE

TODAY the eyes of the soybean processing industry are turning to solvents. Higher oil prices are putting a premium greater than ever on the extra *pounds* of oil which can be taken from each bushel of soybeans by the solvent method. New processes enable the solvent processor to tailor-make his meal for any desired use, feeding or industrial.

The Skelly Oil Company has anticipated this growing interest in solvent processing of soybeans, and today is prepared to supply a type of Skellysolve especially adapted to the efficient and economical extraction of soybean oil. Skellysolve's reputation is built on years of experience in the manufacture of all kinds of petroleum hydrocarbon solvents. Write or wire today to the address below, for complete information on Skellysolve Service. There is no obligation.

SKELLYSOLVE *for the SOYBEAN Industry*

There are six different types of Skellysolve which are especially adapted to the efficient extraction of soybean, also corn germ, cottonseed, meat scrap, and other vegetable and animal oils. The Skellysolve that is especially refined for extraction of more oil from each bushel of soybeans has the correct boiling range and other special properties which meet the exacting requirements of this particular service.

SKELLYSOLVE

SOLVENTS DIVISION, SKELLY OIL CO.
SKELLY BLDG., KANSAS CITY, MO.

How Are You Fixed for Saving Your Soys?

It's not the acres you planted but the bushels you harvest that will win your part in the battle of beans. Let not the losses of 1942 happen again!

You can't do much about frost-damage, if it should come, but you *can* do something about the shattering and weathering that rob you of your reward when harvest is unduly delayed. Whether you hire a combine or have one of your own, you can cooperate with your neighbors to keep every machine running every hour that the beans are fit to put in the bin.

Rather than rent so important a machine as a combine, it should be operated by its owner or regular operator. He can save more beans, and do it faster with less wear and tear on the machine. But few farmers can afford to neglect their own farming to do custom work for neighbors.

The best way for everybody, as a rule, is to "swap work." If you hire a combine, arrange to pay back by doing work of equal value for its owner on his farm. Take your tractor and plow, corn picker, or manure spreader and help him as he helps you.

If you have a Case combine, or can get one of the few new ones lately authorized to be built, use it to hustle the bean harvest for as many of your neighbors as you can. Case combines are built strong and durable, to stand up in steady service with little upkeep. Custom work, or "swapped" work, will pay you extra earnings on your investment.

This Man Can Help You

Your Case dealer stands ready to serve you in many ways. His wide acquaintance will help in arranging to "swap" work. He will do all he can to supply you a new or used combine. To the full extent of his time and help he will furnish you skilled repair service and advice on operation of all kinds of farm machines. He knows the fair custom rates for work with farm equipment under your local conditions. All he asks is that you let him know your needs as far ahead as possible, especially orders for renewal parts and overhaul jobs. Write us for free book "Shortcuts" showing ways to get more done with limited labor. J. I. Case Co., Racine, Wis., or nearest branch.

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SAVE MORE SCRAP
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YOU spare no expense to insure the general high quality of your product. Now, take one more step—**perfect your package**—and you've made 100 percent provision for a product as quality-high in the hands of the consumer as it was when it left your plant. Extensive tests prove that BAGPAK heavy duty multiwall paper bags are the ideal package for products that are packed in units of 25, 50 and 100 lbs. They are sift-proof and protect against moisture, odors and all forms of outside contamination.

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THE Soybean Digest

GEO. M. STRAYER, Editor KENT PELLETT, Managing Editor

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IN THIS ISSUE

	Page		Page
War Conference	6	*Soybeans and Orient*	18
Regional Laboratory	8	*Ohio Campaign*	20
CCC's Marketing Program	9	*Processing Green Beans*	22
By a Grower	10	*Soy Protein Consumption*	24
Grade Standards	11	*Soybean and Iowa*	28
Meal Distribution	12	*Crop Report*	30
Peoria Laboratory	13	*Food and Drug Administration Unrepresented*	32
Feed Crisis	14		
In the Oil Business	16	*In the Markets*	49

THE AMERICAN SOYBEAN ASSOCIATION

OFFICERS: President, J. E. Johnson, Champaign, Ill.; Vice President, Howard Roach, Plainfield, Iowa; Secretary, George M. Strayer, Hudson, Iowa; Treasurer, J. B. Edmondson, Clayton, Ind.

DIRECTORS: Ersal Walley, Fort Wayne, Ind.; John Dries, Saukville, Wis.; Jacob Hartz, Stuttgart, Ark.; David G. Wing, Mechanicsburg, Ohio; John Sand, Marcus, Iowa; Walter McLaughlin, Decatur, Ill.; Roy H. Monier, Carrollton, Mo.

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WHY THE DELAY?

THERE may be justification for the delays in announcing the details of the 1943 soybean processing contracts. If so, we are not aware of them. The 1942 experience should have taught CCC officials that contracts should be announced far enough in advance that processors, grain handlers and others might become familiar with them before the crop began to move. Or is confusion in the industry to be desired? If so, the present course of non-announcement is designed to achieve just that.

We realize that it is impossible to please all factions. We know no contract can be written so that it is satisfactory to everyone. We know that it would be impossible to get all soybean processors to agree on a contract. We know that the form which best fits the largest percentage of the industry is the one which should be adopted. We know that the industry should have time to plan its operations under the new contracts. We still believe it is not necessary to utilize a full year to profit by 1942 experiences.

And might we suggest that the government place itself in the place of business for a minute — and try to figure out a logical reason for delay?

PROCESSING CONTRACTS ON 1943 CROP BEANS SHOULD HAVE BEEN ANNOUNCED BY SEPTEMBER 1. LET'S HAVE THEM NOW — BEFORE BEANS BEGIN TO MOVE.

IT'S TIME TO ACT

COPY of a letter authorized by the Board of Directors and written to W. J. Campbell of the Pure Food and Drug Administration is carried on another page. No single governmental ruling in recent years has brought down the wrath of the industry as has the limitation of use of soy flour in bread to ½ percent. Apparent purposeful stifling of one of the most nutritious, healthful, economical foods can not be allowed to go unchecked.

That two years should have been allowed to elapse between the hearings and the announcement is bad enough. That no one in the soybean industry knew of the proposed rulings is worse. That the Pure Food and Drug Administration should become party to a campaign to choke off the use of a product of which the War Food Administration has authorized many-fold increases in production is far worse. That a ruling such as that proposed was without foundation of fact and unsupported by testimony in the hearings two years ago is an established fact. There was no evidence offered to show anything other than benefits to be derived from the use of soy flour. There was much evidence to show distinct benefits.

The American Soybean Association has asked that hearings be reopened. We have been assured that they will be. We are awaiting action. SOYBEAN GROWERS OF AMERICA HAVE A MAJOR MARKET AT STAKE. POST-WAR SOYBEAN PRICES WILL BE DETERMINED BY THIS ACTION. TELL YOUR CONGRESSMAN AND SENATOR ABOUT IT. TODAY — BEFORE IT IS TOO LATE.

IT WAS SUCCESSFUL

THE 1943 WAR CONFERENCE is now history. Included on the pages of this issue are the speeches, some necessarily condensed by your editors, delivered at the Cedar Rapids meeting. Only two are missing, those by J. L. Cartter and W. B. Allington, since they were not approved for publication.

"The most successful conference we have ever held," was the verdict of some of those who attended. The attendance was larger than had been expected. Those who were in attendance were there because they meant business and wanted information. There was no play — but serious deliberation. The effects of the decisions made there will be felt in the industry for years to come. The officers — the committees — the men and women who spent their time and efforts in behalf of the industry — are to be commended. We hope the satisfactions to be derived from seeing a good job well done will repay them.

THE MEAL SITUATION

CONSIDERABLE apprehension is felt in some quarters lest soybean growers, remembering last year's protein famine, feed 1943 crop whole beans in large quantities. Since this would mean a loss of vital oil, the government will try to prevent such an occurrence, according to O. D. Klein of AAA in his address to the War Conference. Just what are the steps to be taken is not entirely clear. A meal allotment plan, which nobody wants if it can be avoided, has not been adopted — at least not yet.

But one thing is very clear. If a good distribution of oil meal is not obtained in the areas where beans are produced, large quantities of these beans will not reach the market. Growers feel that they should not be short circuited when it comes to obtaining their share of the meal from the beans which they grow. And they do not intend to be caught out on the end of the limb again.

To save more for '44

TO HELP speed Victory on its way, American farmers are bringing along the greatest bean crop this country has ever known. Ahead of us now is the most vital of all tasks—the harvest.

To make that harvest most successful—to do a real job of saving the crop that long hours of battling sun, wind, rain and pests have produced—Oliver has built a limited number of its famous Model 20 Combines with soybean equipment. We're sorry we haven't enough of these machines for everyone who wants a new Combine this year. But, as you know, much of the material that goes to make up Combines has gone to the fighting fronts.

If you're in need of a new Combine, we suggest you see your farm equipment rationing board and your Oliver dealer. We can tell you that the Oliver Model 20 is a real bean saver—from the finger reel that so skillfully picks up and saves the down and tangled stalks and feeds them to the header, right through the threshing and cleaning machinery. The Oliver 20 Combine is your assurance that you'll reap a rich, and sorely needed harvest.

If your present Oliver Combine needs repair or parts, we suggest you call your Oliver dealer about them today. If, by repairing this old equipment, you can make it last another year—by all means do so. That's one way we can all help more toward victory. Oliver Farm Equipment Company, 400 W. Madison Street, Chicago 6, Illinois.

STURDY THE OTHER WORD FOR OLIVER

Welcome TO CEDAR RAPIDS

The executives and the entire personnel of the HONEYMEAD PRODUCTS COMPANY extend the hand of welcome to the membership of the American Soybean Association to Cedar Rapids. They hope — not only that your conference here will add much to the advancement of the Soybean Industry and, in turn, to world progress — but, also, that you will take "back home" with you a happy memory of Cedar Rapids and Cedar Rapids hospitality.

THE HONEYMEAD PRODUCTS CO.

CEDAR RAPIDS, IOWA

Processors of Soybeans --- and Manufacturers of Soybean Edibles

The soybean dinner. Featuring Iowa cornfed beef and dairy products, also meatless soy cutlets, soy butter, biscuits and cake, a truly midwest menu.

250 Attend the *War Conference*

Cedar Rapids, Iowa
September 5-7

THE WAR Conference or 23rd annual convention of the American Soybean Association, at Cedar Rapids, Iowa, September 5-7, brought 250 growers handlers, processors, governmental agents and other representatives of the soybean industry together for sessions that were highlighted by announcement of governmental soybean marketing and oil meal distribution programs, by resolutions condemning the Pure Food and Drug Administration's soy flour ruling and urging the repeal of federal taxes on margarine, and by thorough discussions of many other aspects of wartime problems confronting soybeaners.

The annual dinner held the evening of September 6 featured delicious soy foods in addition to old-fashioned Iowa cornfed beef. A large share of the crowd stayed over until the next days for the tours of Cedar Rapids processing plants, which included the soybean mills of Honeymead Products Co. and Cargill, Inc., and in addition the Quaker Oats Co. mill and the corn processing plant of Penick & Ford.

As suggested by speaker Walter Berger, all of us hope that the day is not far distant when the soybean get-together will be filled with jovial stories, laughter and the hilarity of old times. But not this year. This is war. The conference was a serious occasion.

For president, J. E. Johnson, Champaign, Ill., succeeded David G. Wing, Mechanicsburg, Ohio, who has headed the organization efficiently for the past two years, while Johnson has served as vice-president. Howard Roach, Plainfield, Iowa, was elected vice-president. George M. Strayer, Hudson, Iowa, and J. B. Edmondson, Clayton, Ind., were reelected secretary and treasurer respectively.

John Dries, Saukville, Wis.; Jacob Hartz, Stuttgart, Ark.; and Ersel Walley, Fort Wayne, Ind. were reelected directors. New members to the board were Wing, the retiring president; Walter McLaughlin, Decatur, Ill.; John Sand, Marcus, Iowa; and Roy Monier, Carrollton, Mo.

G. H. Banks, Osceola, Ark. was chairman of the committee on nominations, Howard Roach on resolutions.

The Digest is fortunate in being able to carry all formal speeches given at the Conference, many of them virtually complete, in this issue.

REPORT OF SECRETARY

1942-43 FISCAL YEAR

I will not attempt this evening to give you a detailed report of the operations of the American Soybean Association during the past year. Those of you who are readers of the *Soybean Digest* are familiar with what has taken place. I would like to review the main projects which have been carried on during the year and to give my evaluation of them.

There has been greatly renewed interest in the food uses of soybeans and soybean products during the past year. Many new products have been offered on the commercial market. Because of the curtailment of supplies of many products, manufacturers have been looking for new lines. A large amount of attention has been focused on soybeans and soybean products by popular magazine articles. The inquiries received in the central office as a result of these have required a large amount of time for replies.

Hectic Year

The past marketing year has probably been the most hectic in the history of the American Soybean Association. The acreage of beans was the largest, by almost twice, ever produced in this country. The extremely early frost created problems never before experienced. That frost together with operation under the governmental purchase programs taxed the ingenuity of the entire industry.

One of the most important jobs confronting the American Soybean Association during the year was that of urging Commodity Credit Corporation and governmental grading officials to make adjustments in their grading program to allow for frost or green damage and enable the producer to receive the actual valuation of the bean, rather than the valuation established by previously determined irrelevant standards. On the editorial pages of the *Soybean Digest* we consistently pointed out the necessity of adjusting the CCC program to allow for current developments. In the year which has intervened most all of our suggestions have been followed, in all or in part. Soybean growers have been consulted in the planning councils and have had a part in the development of the 1943 marketing program for soybeans.

During the winter and early spring months we consistently expressed the importance of proper inoculation of soybeans in order that we might produce the greatest number of bushels on limited acreage with the limited labor supplies available. AAA officials and inoculation manufacturers tell us that the demand for soybean inoculation in 1943 was far above that of any previous year. The yields should be likewise.

Severe Standards

Feeling that the standards which were established for the marketing of the 1942 crop of beans were still too severe on matters of green damage and field damage, we advocated revision of those standards. The 1943 program which will be announced here at this meeting includes the revision of discounts for both green damage and field damage. We feel this to be one of our outstanding accomplishments of the year and this was possible only through the cooperation of such agencies as the Illinois Agricultural Association, the various state extension services and agronomy departments and CCC.

At the present time we have on our hands one of the most serious battles with which we have ever been confronted. For some unknown reason the Food and Drug Administration of the Federal Security Agency has ruled that soy flour can not be used in bread in excess of ½ of 1 percent. Many bakeries have been using greater percentages than this with marked success. Many industries, because of the emphasis upon balanced foods and the shortage of protein supplies, have been considering the use of soy flour.

This field is one which is just now opening up and which shows promise of providing huge markets for soy flour both during and after the war. *However, the Food and*

● *Resolutions on soy flour and margarine. Announcement of government's marketing programs. Speeches by Miller, Spry, Morse, Schultz, McLaughlin, Kishlar, Iftner, Lloyd, Klein, Goss, Hollett, Rhoades and Berger in this issue. Food and Drug Administration not represented.*

Drug Administration must be prevailed upon to change their ruling or we may as well cross this major market for soybeans off our list. The fight has only begun, and it may demand the assistance of the entire American Soybean Association membership before it is finished. The members of the board of directors have been extremely busy contacting members of Congress and governmental agencies concerning this ruling.

A year ago I informed you that we had turned our advertising solicitation over to the Ewing Hutchison Company in Chicago. The lineage of advertising carried during 1943 has been greater in every issue than during the previous year. The September issue, carrying the reports of this convention, will have twice as many pages of advertising and will be twice as large as any issue of the *Digest* we have ever published. It appears that if governmental curtailment of paper supplies does not hit us too hard we should be in a position to continue during 1943-44 with increasingly large schedules. We have been very pleased with our relationships with the Ewing Hutchison Company.

The Problem

The big problem confronting the American Soybean Association is the same as that which has confronted it in each of the last several years — adequate membership. To truly represent the soybean growers of America we should have the major proportion of them among our membership. Last year I told you that an active paid membership of 25,000 growers was not an impossibility. If we are to be an effective organization we must work out some plan to increase the membership solicitation plan which will enable the American Soybean Association to represent all soybean growers and thus be influential in its accomplishments. We must provide sufficient members to finance that type of program. The 1943-44 year is the one in which that plan should be formulated and carried through.

Respectfully submitted,

Geo. M. Strayer, Sec'y
AMERICAN SOYBEAN ASS'N

BUSINESS MEETING

Minutes of the Annual Business Meeting of the American Soybean Association, September 5, 1943

The meeting was called to order in the Ballroom of Hotel Montrose at Cedar Rapids, Iowa, at 9:15 p. m. by President Wing.

Secretary, Geo. M. Strayer, introduced by the president, made series of announcements concerning the next day's convention activities, read his annual report and the financial statement. The minutes of the last annual meeting, held at Purdue University on September 16, 1942 were read and approved.

President Wing complimented Mr. Strayer upon his handling of the Association's affairs during the year just ended, including his editorship of the *Soybean Digest.*

Mr. Banks, chairman of the nominating committee, submitted a slate of officers for the next year as follows: President, J. E. Johnson; Vice President, Howard Roach; Secretary, Geo. M. Strayer; Treasurer, J. B. Edmondson.

The report was adopted and the officers elected by acclamation. Mr. Banks then stated that a slate of candidates for directors would be presented on Monday afternoon.

Mr. J. E. Johnson was asked for a report of the Resolutions Committee. He stated that their work was as yet incomplete but promised to bring in a statement the next day.

Mr. Paul Truitt, President of the National Association of Margarine Manufacturers, was introduced. He discussed HR-2400, introduced in Congress by Representative Fulmer of South Carolina and which proposes to eliminate the federal taxes now imposed upon margarine made of domestic fats and oils. He outlined broadly what the Bill proposes to do, what is being done to support it and the testimony that the Association expects to offer in support of the Bill. He, also, stated that the American Soybean Association could assist by being sure that the members of Congress from their states know about the Bill and vote for it when it goes to the Floor. He asked that the American Soybean Association make provision to support the bill by sending representatives to the public hearing, and that a resolution in support of HR-2400 be adopted.

Mr. O. N. LaFollette spoke in favor of a bill in Congress to put the Federal Agencies sending seeds, feeds and fertilizers across state lines under the inspection laws of the states into which those products are shipped. Such a bill had been killed during the last session.

Dr. W. L. Burlison extended an invitation to the Association to hold the next annual meeting at the University of Illinois. President Johnson thanked him for the invitation and said it would be placed before the Board of Directors for consideration, as is customary.

After a few remarks the President recessed the meeting until Monday afternoon, September 6.

Recessed meeting called to order at 3:50 p. m. in Ballroom of Hotel Montrose by Vice President Howard Roach.

Secretary Strayer was called on for explanation of recent ruling of Food and Drug Administration pertaining to use of soy flour in bread. He described the ruling and its probable effects upon the industry if allowed to stand, as well as steps taken and contemplated by the Board of Directors.

Heartsill Banks, Chairman of the Nominating Committee, presented the following schedule of candidates for membership of Board of Directors for 1943-44 year: Illinois: Walter McLaughlin, Decatur; Indiana: Ersal Walley, Fort Wayne; Ohio: David G. Wing, Mechanicsburg; Iowa: John Sand, Marcus; Arkansas: Jacob Hartz, Stuttgart; Wisconsin: John Dries, Saukville; Missouri: Roy H. Monier, Carrollton.

Moved by Banks, seconded by McIlroy that report of Nominating Committee be accepted and a unanimous ballot be cast for all candidates. Carried.

Howard Roach, Chairman of the Resolutions Committee, presented schedule of resolutions. Moved by McIlroy, seconded by Wing, that the resolutions be adopted as read.

Opjection to the resolution pertaining to margarine was presented by George Briggs of Wisconsin.

Presiding officer called for vote on resolution. Carried.

Moved by John Dries, seconded by A. W. Large, that the remarks of Mr. Briggs be incorporated in the minutes of the meeting. Carried.

Presiding officer called for additional business.

Moved by Wing, seconded by Hartz that meeting be declared adjourned.

RESOLUTIONS

(1)

Whereas —

A certain proposed order defining standards of bread made by the Food and Drug Administration of the Federal Security Agency has ordered that the inclusion of more than ½ of 1% soybean flour in bread will be considered an adulterant and

Whereas—

All evidence of nutritional and other authorities has proven that the addition of soybean flour in bread improves its nutritive value and flavor and

Whereas —

This national emergency calls for the maximum food value in bread as evidenced by the national program of wheat flour enrichment and soybean flour can contribute

(Continued on page 34)

Some of the new directors and officers: left to right standing, John Sand, Marcus, Iowa; D. G. Wing, Mechanicsburg, Ohio; Walter McLaughlin, Decatur, Ill.; John Dries, Saukville, Wis.; Roy Monier, Carrollton, Mo., Jacob Hartz, Stuttgart, Ark., all directors; and George M. Strayer, secretary and editor of The Digest. Seated: Howard Roach, Plainfield, Iowa, vice president; and J. E. Johnson, Champaign, Ill., president.

Some Agronomic Results of the

U. S. REGIONAL SOYBEAN LABORATORY

By W. J. MORSE

Senior Agronomist, Division of Forage Crops and Diseases, Bureau of Plant Industry, Soils, and Agricultural Engineering, Agricultural Research Administration, U. S. Department of Agriculture

THE ORGANIZATION of the agronomic research program and accomplishments of the U. S. Regional Soybean Laboratory have been presented to the members of the American Soybean Association at their annual meetings since the establishment of the Laboratory at Urbana, Ill., in 1936. The agronomic work dealing with cultural and genetic phases of soybean research was administered by the Bureau of Plant Industry. The immediate objectives of the agronomic program were to determine the composition of varieties grown under different soil and climatic conditions, and develop strains of soybeans of superior quality for industrial purposes.

The original scope of the laboratory included states only in the major soybean-producing areas and limited cooperation in agronomic and breeding investigations to five states — Illinois, Indiana, Iowa, Ohio, and Missouri — selected to give a reasonably broad representation of production conditions within this belt. More recently work in the other north central states, and in 12 southern states — Alabama, Arkansas, Florida, Georgia, Louisiana, Mississippi, North Carolina, Oklahoma, South Carolina, Tennessee, Texas, and Virginia — has also been inaugurated.

Modified

The original work program of the laboratory involving agronomic, genetical, physiological, and pathological investigations has been somewhat modified for the period of the war emergency. The physiological and purely genetic problems are being postponed, while greater emphasis is being placed on the development and distribution of adapted varieties of superior quality, improved cultural methods, and the study and control of diseases for the maximum production of feed, food, and industrial products under varying conditions of soils, climate and farm practices. Thus the laboratory program for the war emergency period includes the following objectives:

1. To determine the effects of varietal, soil, and climatic factors, and cultural and production methods on the growth, yield, and composition of soybeans.

2. To develop by breeding through selection from hybrids and other material, supported by data from chemical analyses, varieties of soybeans of superior quality for industrial purposes.

3. To study methods of control for the most serious soybean diseases and the possibilities of developing strains highly resistant or immune to these diseases.

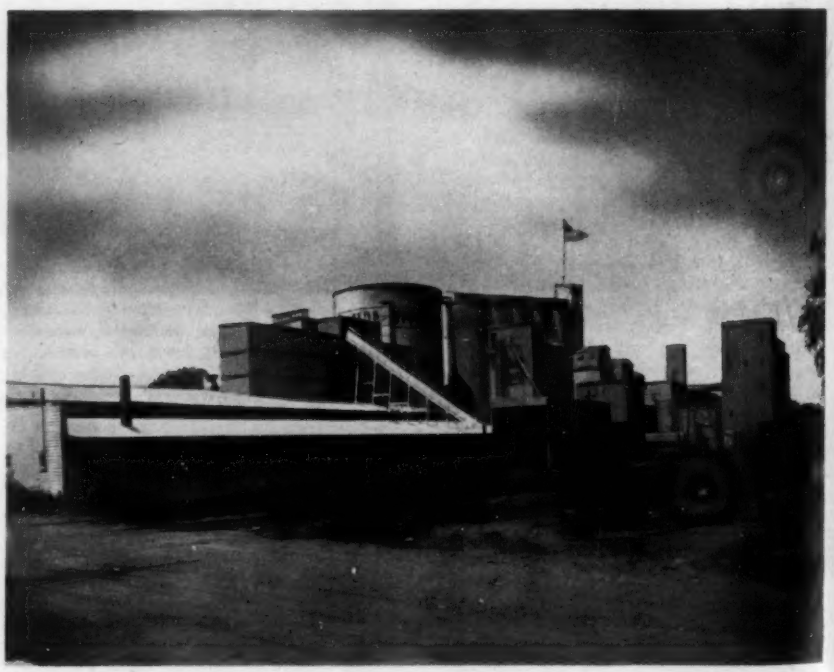
The laboratory, as heretofore, continues its headquarters at Urbana, Ill., where the University of Illinois has furnished ample greenhouse, storage, office, and laboratory space to meet all special requirements. In view of the fact that soybean diseases are increasing in prevalence and are threatening production in some of the heavy producing areas, a full-time plant disease specialist has been added to the laboratory staff. As it is impossible for one man to give detailed attention to the disease problems in all producing states, the possibility of conducting disease studies with the plant pathologists of the 24 cooperating states is being explored.

One of the main objectives of the Laboratory and cooperating agencies is to develop improved varieties and strains of soybeans for commercial and industrial utilization. In order that new strains developed through cooperative breeding work can be evaluated more rapidly and accurately, six varietal groups have been established and designated as Uniform Test Groups I, II, III, IV, V, and VI. Group I includes varieties for the northernmost part of the north central states having approximately the maturity of Mandarin, the groups gradually increasing in length of season to Group VI that contains the late varieties for the southern part of the cotton belt. In the north central states uniform nursery tests are being maintained at 24 different locations and in the southern states at 54 locations in cooperation with state experiment stations and special cooperators. At these various places, varieties and strains are being studied for desirable agronomic characters and disease susceptibility and the seed analyzed to discover promising chemical characteristics. Varieties or strains proving of outstanding value are distributed more widely for further testing for yield and general economic value. New strains found to be superior are increased by the state experiment stations, given a name, and distributed to farmers in the area to which the variety is best adapted.

Some of the agronomic accomplishments of the laboratory to date may be of interest and are summarized briefly as follows:

(Continued on page 28)

A large number made the tour of Cedar Rapids processing plants the final day of the Conference. These included solvent extraction bean plant of Honeymead Products Co. shown below.



Commodity Credit Corporation's 1943

PRICE SUPPORTING AND MARKETING PROGRAM

By J. H. LLOYD

Assistant Regional Director Chicago Office
Commodity Credit Corporation

THE WAR Food Administration's responsibility for the 1943 Soybean Program is to accomplish the early, efficient and complete processing of the crop and to effect the most advantageous distribution of its products. The task of moving the crop into processing channels at not less than producer support prices and for the processing of the beans has been delegated to Commodity Credit Corporation, with the Agricultural Adjustment Administration cooperating in all matters pertaining to purchases from producers at support prices and the storage and shipment of soybeans that are not purchased direct from handlers or producers by processors.

It is contemplated that the bulk of the 1943 crop will be handled through regular trade channels, which means primarily through country elevators direct to processors or through country elevators and commission houses to processors, and secondarily through direct sales of producers to processors.

In many respects the 1943 soybean price supporting, processing and products distribution program of Commodity will be similar to the 1942 Crop Program.

The 1943 program, however, differs in that:

(a) The basic soybean support prices are 20 cents per bushel higher — $1.80 for No. 2 or better soybeans of Classes I and II, with low-moisture premiums of 2 cents per bushel for each full 1 percent moisture below 14 percent; and $1.60 for No. 2 or better soybeans of Classes III, IV and V, with the same low-moisture premiums to apply. Similar low-moisture premiums will also apply to all other grades of soybeans of all classes.

(b) In lieu of discounts, basic support prices for soybeans of Grades 3 and 4 are established at prices 2 cents per bushel and 5 cents per bushel, respectively, below the Grade 2 prices for the various classes.

(c) All sample grade soybeans will be eligible for purchase on basis of an established schedule of discounts.

(d) The 1943 discount schedule has been modified from the 1942 schedule, especially as regards the discount for so-called "green bean" damage, and the 1943 crop official inspection certificates will record two damage counts — "field" damage and "green bean" damage.

(e) Foreign material in excess of 5 percent will be handled the same as dockage — in other words, it will be a weight factor instead of a discount factor.

(f) No "high oil" or "low oil" areas are provided for in the 1943 program, thus establishing the same support prices throughout the country for soybeans of like moisture content of a given class and grade.

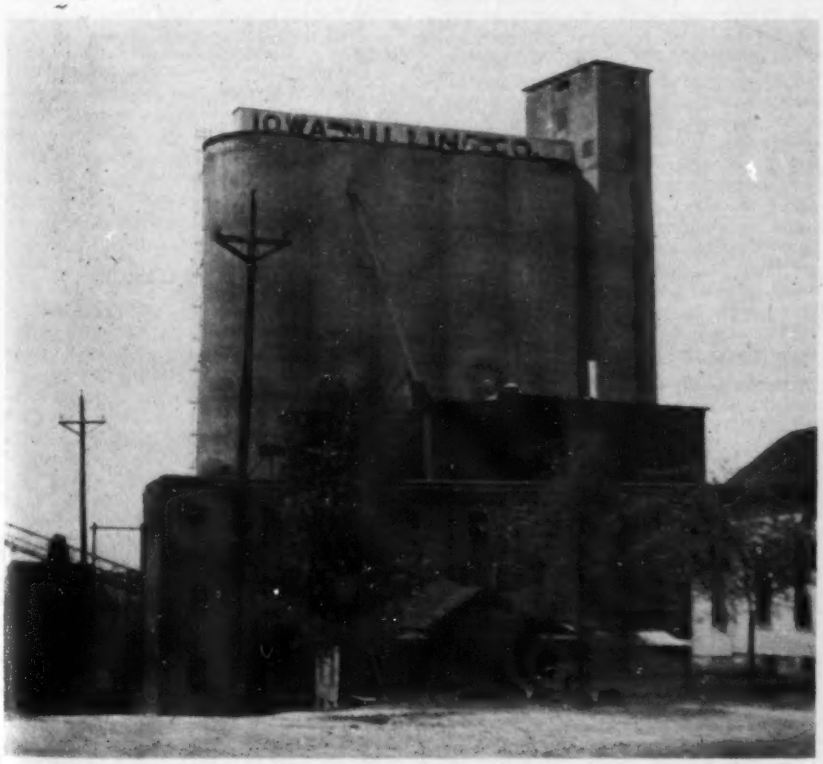
(g) Up to date, there is no provision for a monthly advance in the support prices for soybeans.

(h) The Office of Price Administration has not, up to the present time, established a ceiling price for soybeans of the 1943 crop.

(i) Under the 1943 program, country elevators may handle soybeans for Commodity Credit Corporation only under the provisions of the Uniform Grain Storage Agreement.

(j) Country elevator "in and out" handling charges are increased to 5 cents per bushel.

Cargill Inc. opened the doors of their expeller soybean plant to the War Conference tour. Other plants visited included Penick & Ford corn processing plant and Quaker Oats Company.



Surplus Beans

The surplus soybeans not purchased by processors will be bought by Commodity Credit Corporation through county Agricultural Adjustment Administration committees, and the portion of the crop so acquired, together with the loan beans that are delivered to Commodity by producers in payment of notes, will be moved by the Corporation to processing capacity outside of the soybean belt.

The stocks of all soybean processors under contract with Commodity must be purchased at not less than the 1943 support prices.

Here is the 1943 Soybean Support Prices tabulation:

Grade	Percent Moisture	Classes I & II	Classes III, IV, V
	11	$1.86	$1.66
	12	1.84	1.64
	13	1.82	1.62
No. 2 or Better Soybeans, $1.80	14	1.80	1.60
	11	1.84	1.64
	12	1.82	1.62
	13	1.80	1.60
	14	1.78	1.58
	15	1.76	1.56
No. 3 Soybeans — $1.74	16	1.74	1.54
	11	1.81	1.61
	12	1.79	1.59
	13	1.77	1.57
	14	1.75	1.55
	15	1.73	1.53
	16	1.71	1.51
	17	1.69	1.49
No. 4 Soybeans — $1.67	18	1.67	1.47

(Continued on page 46)

SOYBEAN INDUSTRY AS SEEN BY A GROWER

By WALTER W. McLAUGHLIN

IN ORDER to qualify as a grower, perhaps I should explain that on the farms under the management of our organization we are growing 8,000 acres of soybeans in 1943. We are expecting to produce on these acres at least 200,000 bushels of beans worth approximately $360,000. It should be remembered however that I come from a soybean state. Illinois farmers last year grew about 73,794,000 bushels of soybeans.

I shall take up some of the practical problems of a soybean grower. The selection of an adapted variety is of vital importance. In our section the leading varieties are Illini, Chief, Dunfield, Manchu, Richland, and Mukden. The choice of a variety depends upon latitude and on soil fertility.

Richlands

The Richland is especially adapted to highly fertile soils. Mukden is adapted to soils of medium fertility. Illini has a wide range of adaptation. They do best in fertile soils, but are also adapted to soils of medium fertility. The Chief is a rank growing variety and is not adapted to highly fertile soils, but does fine on soils of medium fertility. The Dunfield and Manchu are adapted to either fertile or medium fertile soils, but seem to shatter badly if weather conditions are unfavorable.

Now insofar as date of maturity is concerned, the Richland and Mukden are early maturing; the Dunfield and Illini are medium as to maturity, and the Manchu and Chief are late maturing.

There are two new varieties that are being watched with great interest this year — the Earlyana and the Lincoln. The Earlyana, developed by the Purdue University Agricultural Experiment Station, is four to five days earlier than the Richland. It is satisfactory in oil content and thought to show great promise as an early bean.

The Lincoln is the most outstanding selection that has been developed to date. The University of Illinois College of Agriculture has done some outstanding work and made the first selection of the Lincoln. It shows promise of being the answer to a prayer insofar as a soybean variety is concerned. In 61 nursery tests conducted by the United States Regional Soybean Laboratories, and by the Experiment Stations of Ohio, Indiana, Illinois, Iowa, Missouri, and Nebraska (1938-1942) Lincoln exceeded Illini by 5.8 bushels; and Dunfield by 6.5 bushels. In standing ability it is superior; and in content and quality of oil, Lincoln ranks ahead of the best standard varieties now being grown.

We are growing 10 acres of certified Lincoln this year under the control of the experiment station of the University of Illinois; and they show great promise at the present time. I predict that the Lincoln will become the leading variety of soybeans in the very near future.

It always takes time to get distribution of a new variety, but soybean growers are on the alert. An increase of six bushels per acre at present prices means an increase in gross income of over $10.00 per acre. If this Lincoln bean continues to hold up to expectations, it will spread like wild fire over the adapted area.

Now as to method of planting, we have got best results by using from one to one-and-one-half bushels per acre, and by planting in 28-inch rows. I fully realize that not all growers agree with me in regard to planting beans in rows. Some prominent and experienced growers are not sure that we should make a wholesale recommendation at present for everyone to plant his beans in rows. These growers believe that a great number of farmers who are using 36-inch to 42-inch rows on medium to thin land are making a considerable sacrifice in yield. Many also believe that the expense involved is too great in buying bean planters and bean cultivators. There may be some merit to some of these arguments in certain special cases. However, I should like to repeat that in general our experience indicates that the best method of planting beans is in 28-inch rows so that they may be cultivated. Many of our tenants have made the increased yield of their bean crop pay for all the necessary bean machinery. Our beans planted in rows and cultivated have on the average yielded more than beans drilled solid. But if the yield were the same, there would still be a strong argument for rowed beans in that it enables the grower to do a much better job controlling weeds. Weeds are a big hazard in soybean production. In addition to planting in rows we have found it is practical to plow the bean ground as early as possible; then cultivate it every week or ten days in order to germinate and kill as many weeds as possible before beans are planted.

After the beans are planted we try to cultivate the field just before the beans appear with a rotary hoe, when such a cultivation is needed. We continue to use the hoe as often as possible till the beans are 12 to 15 inches high. We then give the beans two good cultivations with a bean cultivator. The cultivator should be equipped with sweeps to avoid ridging. A few of our more progressive bean growers are using furrow openers in their bean planters. By planting the beans in a furrow, they facilitate weed control, and leave the field more level for combining. These furrow openers show great promise, but our experience with them to date has been somewhat limited.

Lack Combines

In traveling over Illinois recently, and in coming through a part of Iowa to attend this conference, I observed a fine prospect for a soybean crop in 1943. Indications are that there will be a decided lack of combines to harvest the crop properly. In my own county, the War Board has had requests for 120 combines, and to date they have been allotted only 20. No doubt this is typical of other counties in Illinois and surrounding states.

With all of the new uses developing for soybean products, it seems likely that soybeans will have a prominent and permanent place in the rotation of the corn belt farmers. No doubt there will be a time after the war is over when the demand for soybean products will be less than the demand today. With the lower prices that follow, there will be a decreased production of soybeans.

The price ratio between corn and soybeans very largely governs the acreage of soybeans in the Corn Belt. Even if there should be a reduction of soybean acres after the war, there should be no reason for alarm, because with the rapidly increasing use of soybean flour, soybean meal, soybean oil, and the many other soybean products, the future for soybeans seems bright.

Growing Costs

According to the cost account figures of the University of Illinois Agricultural Experiment Station for the eight-year period 1930 to 1937, the total growing and harvesting cost per acre of soybeans averaged $8.13 per acre. By including charges for taxes and interest on land, the total acre cost of soybeans for the eight-year period averaged $16.98. These cost figures vary from year to year according to yields and variations in costs, but they indicate that at present prices there is a handsome profit in the soybean crop for the grower.

The soybean has been presented as a crop that outranks most others in interest and future possibilities. The surface has only been scratched. It must be realized, however, that we of this generation stand on the threshold of its development. The soybean merits its prominent place in the scheme of progress.

• *New varieties and cultural practices will equip the soybean farmer of the future. Mr. McLaughlin makes a quick survey. He is a former director of the Illinois State Department of Agriculture. Now he is president of Decatur Farm Management, Inc., and oversees 30,000 acres of farm land.*

Recent Developments and Interpretations of

SOYBEAN GRADE STANDARDS

By G. H. IFTNER

GRAIN grade standards have been developed for the express purpose of providing the grain trade from producer to consumer, with a reliable method on which to base the many and various business transactions. Fairly reliable and satisfactory grade standards have been developed for cereal and older oil bearing seeds, but not for the newer commercially important crop — soybeans.

It is not generally known that the existing soybean grade standards were developed by a pioneer processor whose main business at the time consisted of manufacturing starch from corn. It is not strange therefore, that the early grade standards were patterned after the grades applying to cereal grains. If soybeans had become commercially important in the peanut-cotton south or in the flax northwest, the grades developed for soybeans would have been more like the grades adopted for oil-bearing seeds.

Adopted in 1926

Soybean standards grew up with the industry. They were first recommended for use in the marketing of the 1926 crop. In 1935 the standards were revised. In 1941 the standards were again revised and promulgated under the U. S. Grain Standards Act. These standards are still in effect, according to E. J. Murphy, chief, Grain Products Division, F. D. A., U.S.D.A.

The 1942 harvest presented unprecedented marketing conditions and for the first time in soybean history proved beyond doubt that existing grade standards were too severe in the factor covering damage, especially if damage was due to frost. Present standards were predicated on the fact that damaged beans required additional costs to processors and refiners in the production of quality oil and meal and that they produce less oil and protein. There was ample evidence to indicate that these costs were negligible, that is, about one-eighth of a cent per oil pound, or one cent per bushel. There was also evidence that frost damaged beans contained high proportions of both oil and protein.

Information obtained and experiences gained in the present harvesting and processing year proved beyond doubt that a complete revision of the damage factor in the present grade standards was in order.

The present standards permitted no end of confusion among all trade interests. The confusion led to abuses and sharp practices, resulting in serious economic losses to producers and local elevator handlers.

Early in October, a number of farm advisers reported to the College of Agriculture that farmers attempting to market frost damaged beans at nearby processing plants had been discounted severely, government inspectors following the current grade standards to the letter and processors taking the full discounts allowed. In sample grade beans, the discounts were 2c for each one-half percent of damage over eight percent. A typical example: Early in the season a sample of immature, frozen beans carrying as low as eleven percent moisture was offered for sale and the processor quoted a price reflecting a discount of $1.20 a bushel. These beans carried 17.8 percent of oil.

A Macoupin County farmer harvested and binned all of his bean crop before offering them for sale. He took one hundred bushels to a local elevator and was offered $1.08 a bushel; a discount of 52c. Dissatisfied with this deal, he took a second load to another firm in the same general community and was paid $1.58 a bushel. A sample of these beans was forwarded to the Chicago Board of Review and were graded as follows: Sample Grade Yellow, 10.4% damage; 4.0% splits; 0.5% foreign material.

Typical of reports received from farm advisers in the early marketing period — before October 19, when the Agricultural Marketing Administration made a somewhat more liberal interpretation of the discount factor, is the statement which follows:

"With respect to grading, we have heard without confirmation of one farmer who was offered 30c a bushel for green soybeans and a very large number were quoted from 30c to 60c a bushel discount from the $1.60 standard."

A New Interpretation

Problems became acute and on October 13th, J. C. Hackleman, Professor, Crops Extension, College of Agriculture, University of Illinois, provided with 20 samples of soybeans sent him by farm advisers throughout the state, met with Agricultural Marketing Administration and Commodity Credit Corporation officials in Chicago. Information placed before the federal officials resulted in a modification of the interpretation of the grade standards October 19, 1942.

The bulk of the 1942 bean crop was marketed subject to this new grade interpretation. However, relief to producers, and in some instances, local elevators, was not consistent with the value of finished products, i.e., oil and soybean meal.

Discounts suffered by country elevators and reflected to producers in most cases were reported by 59 elevator managers in 30 soybean producing counties. These reports indicate that the average discount taken on all beans inspected in October, November and December 1942 averaged around 5c a bushel.

Thirty-nine percent of the acreage of soybeans in the north half of Illinois remained unharvested during the winter months. The bulk of these beans did not move to market until the months of March and April. The severe winter caused further damage, discoloration, splits, and, in some cases, additional foreign material. It has been estimated that only about 50 percent of the beans remaining in fields as of March 1st, 1943, were recovered. Thus, the producers harvested only about half a crop of beans.

The producers' losses were further augmented by unfair grading when the beans moved to the country elevator, largely because elevator operators were unable to grade the damage, splits and foreign material accurately. Producers lost thousands of dollars on the grading factors. The exact amount will never be known.

The examples listed above clearly indicate the extent of losses suffered by producers because of excessive discounts due to frost damage and inability of elevator operators to interpret standards.

In November the Illinois Agricultural Association authorized representatives of the College of Agriculture, University of Illinois and the speaker to make an investigation and to prepare a brief to be placed in the hands of the officials of the Agricultural Marketing Administration. The information contained in that brief is in the hands of Secretary George Strayer, and is available to those who wish to review our findings.

Recommendations

Thinking that we might be called on to make suggestions for the marketing of the 1943 crop, a small committee representing various interests met at the college of agriculture and drew up a few recommendations. Briefly, these recommendations called for:

1. Premiums and discounts for moisture by 1c for each ½% of moisture above and below 14%. This conforms with trade practice in other crops and provides for close adjustment for value as influenced by moisture content. The present contract provides for premium and discount by 1c for each 1% of moisture above or below 14%. Local buyers have generally criticized this moisture feature on the grounds that it entails endless work and bookkeeping. Producers believe they should have a premium for low moisture beans and will expect the grain

(Continued on page 38)

• *The 1942 harvest gave the existing soybean standards a severe test and found them wanting. When discounts on the same lot of beans varied as much as 50 cents per bushel there was a general demand for their revision, which resulted in a less drastic schedule of discounts on damaged beans being announced for the 1943 crop. But not until after months of study and work by G. H. Iftner, director of Grain Marketing for the Illinois Agricultural Association, and others.*

Announcing

THE 1943 SOYBEAN MEAL DISTRIBUTION PROGRAM

By O. D. KLEIN

IN DISCUSSING any meal distribution program for the coming year it is necessary to review briefly what has happened during the past year. Many folks want to do that since it is their most recent experience and is fresh in their minds.

In the fall of 1942 an error was made in estimating the consumptive capacity of our increased livestock. This error was not made by any one group in particular, but by almost everyone concerned with the feed situation. I can well remember last summer the processors and the mixed feeds people whose entire experience is concerned with marketing, telling us at conferences in Washington that something had to be done to get farmers to feed more protein meal in order to prevent stocks from piling up. Processors then proceeded to sell their production as far forward as possible.

"Bare Spots"

Farmers were urged to step up animal production and consumption — not only to increase numbers of livestock, but to increase production from each head of livestock, for example: heavier hogs, more eggs per hen, and more milk per cow. The response of farmers over the nation was even greater than expected, and resulted in a demand which ultimately was far in excess of the supply of protein.

In late December and early January the discrepancy between the supply of proteins being produced and the demands of livestock feeders resulted in serious "bare spots" in various parts of the country, local areas where no protein was available. The situation in these areas became alarming. Since processors had sold their production far in advance, they were helpless to adjust their sales to meet all these conditions.

The Department of Agriculture found it necessary to step in and relieve these situations as far as possible. The method employed was the War Board distribution plan, which was criticized by some people in the trade at the time, but I believe now generally accepted as a wise move under the emergency conditions that came about.

Since processing facilities for soybeans in the area where soybeans were grown were not adequate to handle the 1942 crop, additional facilities in other areas were employed to crush beans, allowing half of the meal production to be sold in such areas, and reserving the other half for War Board distribution.

Weakness

The one weakness in the plan as far as the Department was concerned was that no information was at hand as to where the bulk of the commercial supply was going in relation to our livestock population. The only thing we could do was to furnish meal as quickly as possible, after a bad supply situation had developed.

During the same winter months of 1942-43 a committee of the feed industry contributed considerable time and effort to make a survey of the protein feed situation and analyze the prospective supplies as related to livestock requirements. This committee worked closely with officials of the Department of Agriculture and the principal conclusion reached was that the supply of available proteins in 1943 will be approximately 80 percent of the livestock requirements as related to the 1943 goals. From this conclusion it can readily be seen that there will not be as much protein available during the coming livestock feeding year as farmers could use for the most efficient feeding.

As a result of this analysis, the feed industry has adopted a voluntary program under which it agreed to limit the protein levels of its feeds to the minimum which will still permit effective production of livestock.

From the standpoint of proper distribution, it seems important during the coming year to see that in so far as possible each state or feeding area of the United States gets its reasonable share of the available proteins, and having been assured of this, that dealers, mixers, and feeders in those states or areas do the best job of distribution and use possible within the supplies available to them. Several definite actions are being put into effect, some of which are merely a continuation of regulations in effect at the present time. The main purposes of these actions are:

(1) To prevent hoarding of supplies at any point from the processor to the feeder level.

(2) To assure each state or area that they are receiving their proportionate share of the production.

(3) To meet unusual situations or bare spots which develop suddenly and cannot be foreseen in advance.

An order is being prepared which limits forward selling of processors' production to 60 days on 90 percent of their production. The other 10 percent of their production is to be held in reserve subject to allocation by the War Food Administration, until the 25th of the month in which produced. All or any part of the 10 percent not called for by the War Food Administration by the 25th of the month may be sold by the processor without direction.

At a recent meeting in Washington of representatives of processors and War Board chairmen a proposal was considered to handle part or all of the 10 percent called for by WFA. It was tentatively discussed about as follows:

Processors and grinders would report to the War Food Administration by the 10th of the month their production and sales, together with the states or areas as requested to which they have shipped their production during the preceding month.

As soon as these reports are received, the shipments for the preceding month for a state or area would be compared with the same state or area's share of the total production based on its livestock needs. If any states or areas did not receive their share of the production, it was suggested that certain mills would be designated to ship to certain states or areas from the 10 percent reserve, and at the same time, the War Boards of such states would be informed of the amount of meal designated by the War Food Administration for their states and the names of the processors who had been designated to ship meal to them.

15 Day Limit

State War Boards would then inform the processors from whom production had been assigned to them of the names of dealers who had been designated by them to receive carloads from these allocations. The actual sales transaction would then be carried out directly between the named processor and the named dealer in the local area.

In order to be sure that supplies produced will be kept moving freely, no dealer in oilseed meals is to be permitted to have on hand more than a 15 days' supply, and no farmer or feeder can purchase more than a 30 days' supply with the exception that farmers who customarily buy in ton lots or in carload lots are permitted to continue this type of purchase, and other feeders, such as ranchmen, who have found it necessary in the past to lay in their winter's supplies during the fall and early winter months, may still do so.

Restrictions are being placed on the purchase or sale of soybeans for grinding for feed or fertilizer.

The prices of meal have been increased to bring them more nearly in line with the prices of other feeds. Soybean meal $45 a ton, bulk Decatur basis. Cottonseed meal $45 to $48 per ton, bulk at the plant de-

(Continued on page 44)

• *Ten percent of oil meal production will be held in reserve by the War Food Administration each month during the coming year to take care of "bare spots." O. D. Klein, in charge of the oilseed meal distribution program of the Agricultural Adjustment Administration, is a former Iowa AAA chairman. He owns a farm at Alden, Iowa, where he raises purebred Hampshire hogs.*

Soybean Research at the

NORTHERN REGIONAL RESEARCH LABORATORY

By W. H. GOSS

LAST year, this group heard Mr. H. T. Herrick, director of the Northern Regional Research Laboratory, discuss the status of soybean research at Peoria. The chemical and engineering research formerly conducted at Urbana had just been transferred to Peoria, where better facilities were available and where, through coordination with other activities of the Northern Laboratory, it would be possible to place greater emphasis on the industrial utilization of soybean products. Mr. Herrick assured you last year that the soybean investigations formerly carried out at Urbana would be continued on an expanded and intensified scale, and results accomplished during the past year fully justify his promise.

Streamlined

The soybean has not, by any means, lost its identity among the commodities studied at the Northern Regional Research Laboratory. The problems whose solutions are being sought have been integrated, where possible, with similar problems applying to the other commodities, so that the vastly superior tools already available at Peoria can be fully utilized on soybeans as well as on corn, wheat, and agricultural residues. As Mr. Herrick pointed out last year, the personnel and equipment for attacking research problems are distributed among eight divisions, four of which are engaged in soybean work. These are the oil and protein, engineering and development, analytical and physical chemistry, and commodity development divisions.

Long before Pearl Harbor, the Laboratory's research program was streamlined to meet defense demands, all efforts being concentrated on a relatively few projects considered vital to the proper functioning of our war machine. These were, for the most part, directed toward the development of replacements for critical materials, made scarce by wartime developments with which we are all familiar. During the past year, however, the threat of food shortages has become a dominant factor in the direction of the Laboratory's research. This had been anticipated when the Laboratory's efforts were originally geared to war problems, and it has consequently been possible to render a great deal of assistance to the war food program. In spite of manpower and equipment shortages, there has been no decrease in the intensity with which last year's problems have been pursued toward successful conclusion and with which new problems have been undertaken to meet constantly changing conditions.

During the next few minutes, I should like to outline, quite briefly, what is being done with soybeans in the war research program at the Laboratory at Peoria. First, the work previously reported to you will be brought up to date, and then some newer developments in the food production program deserve discussion. The first group of undertakings comprises work on substitutes for rubber, tung oil, various resins, wool and silk, casein, and other strategic items.

The development of Norepol was described to this group last year by Mr. Herrick, insofar as a government secrecy order permitted. It is made from the linoleic acid in soybean oil by carefully controlled polymerization and other chemical processing. The method of manufacture was disclosed over a year ago to a selected group of industrial firms who were equipped to produce it, and as a result, a large number of firms have participated in its manufacture for use instead of rubber in such items as rubber heels, jar rings, rubber tubing, gaskets, etc. If the shortage of fats and oils had not developed, Norepol would undoubtedly now be in production on a scale many times the present rate, but the necessity for conserving our supplies of edible oils has necessitated a curtailment in allocations of soybean oil for Norepol. At the present time, nevertheless, at least four companies are making it.

Norelac

The Norepol process, as turned over to industry last year, produced not a true synthetic rubber but, instead, a substitute which could be used in many fields where the requirements are less severe than they are for tire manufacture. The Norepol process has been further developed during the past year, and on a laboratory scale it has been possible to make Super-Norepols, having properties approaching those of natural rubber. In fact, these materials excel natural rubber in some respects.

• *During the war-time emergency the Northern Regional Research Laboratory is trouble-shooting for the soybean industry. From an address before the War Conference. Dr. Goss, who is senior chemical engineer at the laboratory, has been at Peoria since 1942. Prior to that he was engaged in the same work at the U. S. Regional Soybean Products Laboratory at Urbana, Ill. The Northern Regional Research Laboratory is one of four regional laboratories authorized by Congress in 1938 for the purpose of conducting research to develop new uses and outlets for agricultural commodities.*

Other useful products can be made by a method similar to that used to produce Norepol. The newest item in this series is Norelac, a resin having remarkable properties, particularly when used in lacquer formulations. It has exceptional water resistance and is thermoplastic. These characteristics make it an excellent moisture-proofing coating for food wrappers, especially in cases where heat sealing is necessary. Norelac promises to fill an important need for package-sealing resins in our shipments of dehydrated and other processed foods to distant parts of the world. Additional compounds similar to Norepol and Norelac are under development and will be made available to war industries where there are specific needs for them.

Shortages

The tung oil shortage occupies a prominent place among the problems under investigation at Peoria. Until now, the Government has met the situation by stringent allocation of our stockpile, augmented by small domestic production and imports of substitute oils from South and Central America. Should these small supplies eventually prove inadequate, as they well might, a logical place to look for substitutes is soybean oil, specifically the linoleic acid which it contains. The Northern Regional Research Laboratory has studied this acid very thoroughly and has developed some highly efficient methods for chemically modifying it to make tung oil replacements. Whether these will be put to commercial use depends upon the relative seriousness of our edible oil and tung oil shortages, but if resort to this source of supply for fast-drying oils does become necessary, the Laboratory will be prepared to contribute a practical solution to the problem.

In developing new industrial materials derived from soybean oil, the Laboratory looks upon the oil primarily as a source of the five fatty acids: palmitic, stearic, oleic, linoleic, and linolenic. In order to use these in many of the potential outlets under investigation, it is necessary to separate them from each other, for they are present in the oil as a very complex mixture. Their separation and purification is a difficult task, even on a laboratory scale, but a commercially feasible method is a necessity if products like Super-Norepol and many others now being studied are to be manufactured industrially. Liquid-liquid extraction appears to be the most promising tool for solving this problem, and it has been under investigation for several years, both at Urbana and subsequently at Peoria on an intensified scale. Its application to the separation of soybean oil into fast-drying and non-drying fractions has been briefly reported to this

(Continued on page 42)

Let's Avoid Bureaucratic Control

THE FEED CRISIS

By WALTER S. BERGER

THE SUBJECT given me would have been a good subject to have given any member of the Feed Industry Council six months ago; but today we cannot give a good talk only on protein shortages. We prefer to talk about and discuss the total feed shortage, because that is what we have today.

Things change so fast this day and age —look at what has happened in a year, as far as the feed industry is concerned. A year ago now we were holding schools and educational meetings telling people how to use soybean meal. It was patriotic to feed a lot of soybean oil meal — put prices down equal to corn so they will use it — even spread it out on the ground instead of manure for fertilizer.

Mess

By January 1 we were in the damnedest mess you ever saw. Remember the headlines? "Hoarding." Large feed mixers have hoarded the protein supply. Accusations that the big fellow was crooked and was taking more than his share.

Then the Feed Industry Council was formed and the voluntary program developed. Even then nobody thought we would run out of grain.

By the last of May and the first of June, the common thing you heard among the feed men was, "Where can I get some corn?" "Kill Iowa's hogs so we can get some corn." Today, on September 6, 1943, corn heads the list of all shortages. Alfalfa meal is second, labor third, animal protein fourth, mill feed fifth and your oil meal comes way on down the line in sixth place.

Now that I have reviewed the past, let us talk about today.

To study the situation we must first analyze the way in which we have gotten ourselves in such a mess. Therefore, if you will pardon me I will refer to some statistics to prove how this serious situation has come about. Due to the fact that one of the greatest increases has been in hogs, please keep these two or three figures in mind.

The estimated number of hogs we will raise in 1943 is 127 million head. In 1942 we raised 104 million head and the 1932-41 average on hogs only totaled 73,760,000.

The next type of livestock to have shown the greatest increase is poultry. On July 1 of this year the number of chicks and chickens that were hatched and on farms was estimated at 728,841,000. This is 20 percent above 1942 and 39 percent above the 10-year average, while the number of layers on farms this summer totaled 355 million head — 14 percent more than a year ago and 33 percent more than the 1932-41 average.

As far as cattle are concerned, we have the largest population on record — 78 million head. This is 3 million head more than we had last year.

Last January 1 we had 26,946,000 dairy cows. This total was achieved in spite of the fact that a number of cows had already been slaughtered and the largest number eliminated from herds in any one year since the drought of '34 and '36. While many dairy cattle have been slaughtered, this loss was offset by an unusually large number of young stock being kept in the herd. On January 1 there was 5,931,000 heifers between one and two years old — there were 6,881,000 heifer calves under one year old, in both instances the largest number ever recorded.

Only in the case of sheep and lambs has there been a reduction, and this only by 3 percent.

We must also keep in mind that the increased production of livestock and livestock products has not resulted entirely from expanded numbers of livestock. Weights of hogs currently are running about 10 to 15 percent above normal. Egg production per hen is running about 12 percent above normal and milk production per cow about 8 percent above the 1932-41 average.

Therefore, it is easy to see from the above figures this will mean that the extremely large corn crop of 1942 together with the favorable 1942 crops of oats, barley and grain sorghums, as well as the 300 million bushels of wheat, will be fed during the current feeding season ending October 1. In other words, we are going to have a much smaller carryover of all grains, and have more than fed the largest crop that we have ever produced.

Now then, ladies and gentlemen, this is about the situation we are finding ourselves in today. We just simply have too much livestock for the amount of feed supplies we have available for this coming season. In fact, it is estimated that we have only approximately 80 percent enough total feed to feed the present livestock population. In other words, we have approximately one-fifth more livestock units on hand than we have of feed. Therefore, we must get our heads together and plan a very sound feed conservation program for the coming season, *along with a systematic reduction of certain types of livestock.*

A thorough study has been made to try and determine just where the greatest reduction should take place. A lot of information has been gathered on this subject and I have a few more statistics here to give you an idea as to why we classify them the way we do.

The dairy cow produces 3.15 pounds of protein and 28,000 calories per 100 pounds of feed concentrate. The hen laying eggs produces 2.58 pounds of protein and 13,000 calories. The hog, 1.65 pounds of protein and 29,000 calories. Broilers and meat birds, 2.65 pounds of protein and 11,000 calories. Fat cattle on grass, 1.40 pounds of protein and 29,000 calories; and fat cattle on dry lot, .79 pounds of protein and 20,000 calories.

Iowa State College tests show that hogs require eight bushels of corn, 44 pounds of protein and 12 cents worth of grass for 100 pounds of gain, including feeding the breeding herd. Steers require 12.1 bushels of corn, 20 pounds of protein, 250 pounds of hay, 260 pounds of silage and 60 cents worth of pasture for 100 pounds of gain.

Cow First

In making a study of this you see the dairy cow comes first, because she produces not only the maximum amount of protein and calories; but also essential minerals and vitamins in the form of milk and milk products. She is a great utilizer of roughage and has the ability to handle the poorer quality of protein.

The hen laying eggs comes next. She not only is a high producer of protein and calories but also produces essential minerals and vitamins.

The hog comes high in the classification because he is by far the most efficient producer of calories from 100 pounds of concentrated feed.

The broilers and meat birds are next on the list. Last but not least, come the fat cattle and sheep. Please remember we want to produce all the beef we possibly can from the vast acreages of roughage and pasture lands that we have in this great nation. We want to produce all the lamb, mutton and wool that we can on the roughage and grass lands that we have.

However, when it comes to feeding an

(Continued on page 36)

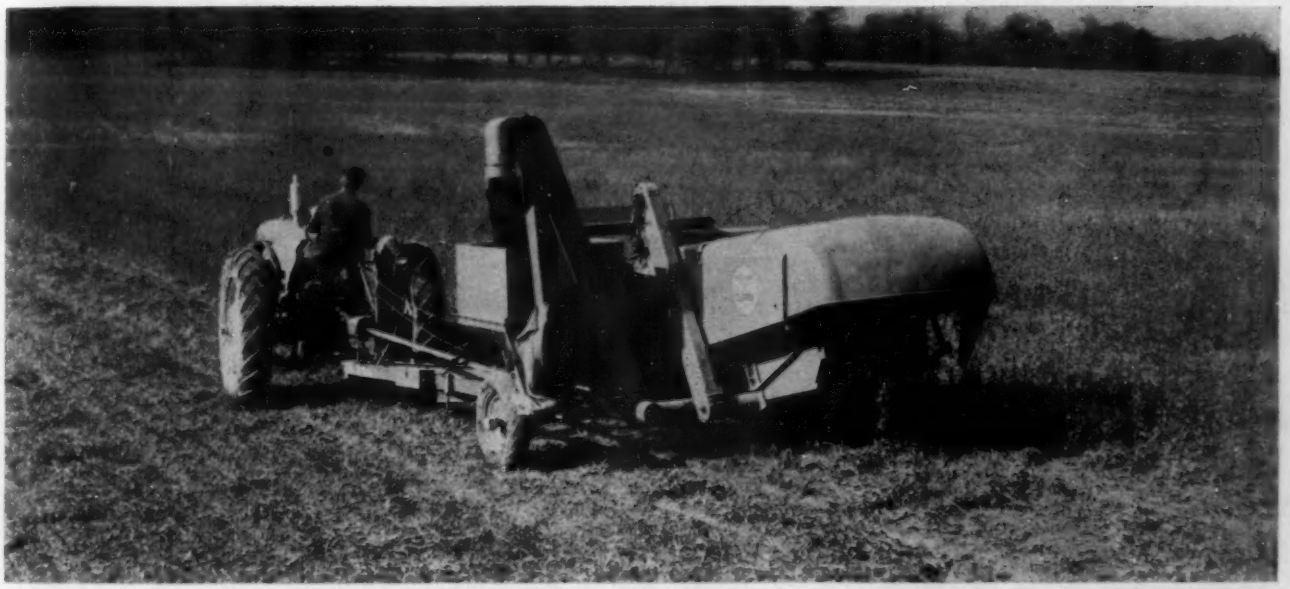
● *A selective reduction of livestock numbers is in the cards, says Walter S. Berger, Des Moines Oats Products Co., who represents the midwest on the Feed Industry Council. Berger believes the voluntary program of the Council is much to be preferred to a rationing system imposed by the government. But he says the latter will come if the former breaks down.*

MASSEY-HARRIS *"Clippers"*

VETERANS

IN THE BATTLE OF

SOYBEAN PRODUCTION



Like a good many American inventions that today are helping the Allies to Victory, the "Clipper" can trace its beginnings back to peacetime research — long before soybeans were considered America's No. 1 wartime crop. For, the "Clipper" is a direct descendent of the first combine to successfully harvest soybeans — a Massey-Harris — in Illinois, back in 1925!

This "young" Massey-Harris is a **"Clipper"** combine — pioneer of the full-width, straight-through, scoop-type construction introduced by M-H six seasons ago. Its big appetite for beans and practical construction were immediately recognized by soybean farmers who made it a sellout each year despite maximum production.

Unfortunately, there aren't enough Clippers or other good combines to go around this year — despite a bigger harvest and fewer skilled harvest hands. Last year saw thousands of acres of badly needed beans rotting in the fields due to lack of combines and help. Let's do everything in our power to avoid a repetition of this tragedy in 1943. Be sure that every M-H Clipper in your territory — old or new — is ready to roll. Remember the Clipper's "big appetite for beans" and put them to work saving every acre possible of Uncle Sam's Victory Soybean crop.

MASSEY-HARRIS

GENERAL OFFICES: RACINE, WISCONSIN **FACTORIES: RACINE, WIS., BATAVIA, N. Y.**

Branches at: Batavia, New York • Columbus, Ohio • Dallas, Texas • Omaha, Nebraska • Des Moines, Iowa • Enid, Oklahoma • Wichita, Kansas Kansas City, Mo. • Stockton, Calif. • Los Angeles, Calif. • Minneapolis, Minn. • Grand Forks, N. D. • St. Louis, Mo. • Harrisburg, Pa. • Racine, Wis.

Mr. Grower, You're Not Just Raising Beans

YOU ARE IN THE OIL BUSINESS NOW!

By LAMAR KISHLAR

MR. SOYBEAN GROWER, you are in the oil business now! That south 50-acre field of yours is not growing just the 1,000 bushels of soybeans that you imagine. That south 50, if you live in Iowa, Illinois, Indiana, or Ohio, is growing an average of about 9,000 pounds of crude soybean oil and just a little less than 25 tons of high protein soybean oil meal.

This fall when you deliver the harvest of that field to your favorite elevator, you will not be simply hauling 1,000 bushels of beans to market. You will have in your truck the raw material from which can be made 10,500 pounds of margarine, 8,400 pounds of shortening, or 8,400 pounds of salad oil. This salad oil can produce from six to 12 tons of salad dressing, depending on the variety.

Grits or Beef

You will be starting on the way to feed hungry people 48,000 pounds of high protein soy flour or soy grits. Or possibly you will be delivering the raw material from which 24 tons of high protein oil meal will be made, and this when skillfully blended with other concentrates and carbohydrates, will make 10 times that amount of feed to produce more beef, pork, milk, poultry, and eggs so badly needed to feed our fighting boys, war workers, and allies. You, Mr. Grower, are now a producer of vegetable oil and protein foods.

This year a very large part of the oil you produce will be made into edible products, such as shortening, oleomargarine, and salad oils, because the government has restricted the use of these valuable oils to the uses most essential to the war effort. Today your soy oil is needed for food — it is pinch hitting for oils and fats cut off by the impact of war and the lack of shipping space. Only a very small quantity of your soy oil will be permitted in soaps, and none will be used for other technical purposes.

But one day peace will return to this war-torn world and such things as allocations, ceiling prices, and trade restrictions will be lifted. Then soy oil must compete on its own merits in a world full of other fats and oils. Keen men, far-seeing corporations, and progressive associations are planning their program right now to meet competition on that day when swords will be beaten into plowshares and jeeps will be converted into tractors.

Mostly Food

If we study the consumption of primary vegetable oils in 1942, we find that 82.5 per cent of the soy oil found its way into food products where it commanded the best price. The remaining 17.5 per cent was consumed in soaps, paints, linoleum, printing inks, core oils, and similar mechanical uses where, in general, it competes with cheaper oils such as fish oils and inedible animal greases. In 1941, a more normal year, the ratio between food and technical uses was about three to one. We must plan our campaign so that in normal years we secure a larger share for food uses.

This calendar year, approximately 400,000,000 lbs. of soy flour will be produced. Some months ago government officials estimated that by January 1 capacity available for production of soy flour, soy grits, and soy flakes might total 1,500,000,000 lbs. In the private trade, however, feeling has been that perhaps production would not greatly exceed one-half of such capacity. This remains to be seen. The interesting point is that as late as 1940, only 2 per cent of the soybean crop was used for food purposes. Clearly, soy protein in the human diet is here to stay, certainly a boon to the growers.

Margarine

You are a producer of shortening, margarine, salad oils, and soy flour just as truly as the crusher, the refiner, and the miller. In fact, you are the most important factor in the production line because the final shortening, margarine, salad oil, flour, or feed can be no better than the basic ingredients from which it is made.

Each year many beans become impaired. Some become damaged by nature's causes. Some become injured because of the frailty of man. Many beans become needlessly harmed because the producer of the beans does not realize what becomes of his raw material and how greatly a little damage in the beans can affect the quality of the final product.

Tremendous advancement has been made in the science of refining fats and oils in the last forty years. It was not until 1902 that Norman, an English chemist, made the first commercial application of hydrogenation, which is the combining of hydrogen gas with vegetable oils to harden the liquid oils into solid or semisolid fats. At about the same time, David Wesson, an American, was developing his epoch making process for the vacuum deodorization of edible fats and oils. Without this hydrogenation would have been impractical for food because the hydrogenation process produced a strong unpleasant flavor which had to be removed. It was not until the first World War that shortenings which had a neutral flavor, odor, and color were produced solely from vegetable oils. In more recent years, manufacturing methods have been further improved by processing molten oils through special machines. These quickly chill and plasticize the mixture until it has special physical properties highly prized by the baker. The incorporation of inert gas instead of air has given additional improvement to the flavor and keeping quality of the product, until now, the supremacy of lard is threatened.

Within a few short years, the oil technologist has created new man-made products from vegetable oils which, on their own merits, have crowded many animal fats formerly used into the soap kettle. The oil chemist needs the continued help of the grower of vegetable oil seeds so that the products which the chemist make may continue to hold this supremacy.

Dark Oils

The modern oil chemist has a whole bag of tricks for decolorizing dark oils, and for removing unpleasant odors and flavors. But these modern refining methods are relatively costly, require special handling of the oil and reduce the manufacturing capacity. The excessive treatment which many dark oils require, removes some of nature's protective substances from the oil so that the resulting product may have a poorer keeping quality. In too many cases, the most modern methods of refining and the greatest skill of the chemist fail to remove all of the odor and color and the resulting refined oil must be diverted into a product of lower quality than intended.

In a similar way, only prime beans can be used in soy flour and other soy foods. Even in feeds for livestock and poultry, the feeding results can be no better than the beans from which the oil meal is made. Low quality beans are a loss to the grower, crusher, and refiner alike.

In general, there are three types of damaged soybeans. The first is due to an early frost or excessive drought just at the time the beans are maturing. Either of these causes arrests the normal development of the bean and the chlorophyll, the green pig-

(Continued on page 40)

● *With the uses of soybeans increasing in number, the responsibility of the grower has increased. The quality of his crop will have much to do with the end products retaining their place in the competitive market that will follow the war. Dr. Lamar Kishlar, St. Louis, has had wide experience in the field of soybean research. He is chairman of the Soybean Nutritional Research Council, president of the American Oil Chemists' Society, councilor for the Institute of Food Technologists, and chairman of the dehydration committee of the American Society of Agricultural Engineers. His speech was delivered before the War Conference.*

★

HERE'S SOYBEAN RESEARCH
THAT MEANS BIGGER YIELDS FOR YOU

Typical of the research carried on at the Nitragin Laboratories is the test illustrated above. Soybeans in the pot on the left, labeled "control," are uninoculated. Each of the other pots contain soybeans inoculated with a **different strain** of bacteria. Two strains were highly effective. They supplied their host plants with nitrogen from the air to produce faster, more vigorous growth and far surpass the control or uninoculated plant.

Strain 3I1b24 is actually parasitic. It did more harm than good. Strange as it may seem each plant inoculated with this strain had more nodules on its root system than plants in either of the other jars. To the farmer who doesn't believe he needs to inoculate soybeans because previous crops have had nodules on the roots, this is an important fact.

Only selected and tested strains of soybean bacteria go into NITRAGIN inoculation. NITRAGIN is probably the best soybean crop insurance you can buy . . . it often boosts yields up to 50% and more . . . it's used by more farmers than any other inoculant. NITRAGIN for soybeans costs only about 12c an acre, takes only a few minutes to mix with the seed. Plan now to inoculate your next planting of soybeans with NITRAGIN.

FREE BOOKLETS

Write for a packet of valuable legume folders. Full of timely facts. . . . How to grow better soybeans, alfalfa, clovers — other legumes. Write today.

THE NITRAGIN COMPANY, INC.

3872 N. BOOTH ST. MILWAUKEE, WISCONSIN

SOYBEANS AND THE ORIENT

By DR. H. W. MILLER

● *With America in this emergency turning for the first time seriously to the soybean as human food, there is much we can learn from the age-old experience of the Orient with soy foods. Dr. Miller, of the International Nutrition Laboratory, lived in Asia years, making a close study of nutrition on the underside of the world. He was engaged in setting up some processing plants in the Philippines when the Japs struck, and his ship put about for the United States.*

IT WAS my privilege during 23 years of residence in the Orient to travel very extensively through the provinces of China, and to acquaint myself with all eastern Asia relative to soybean production. I found that while the central and northern provinces of China including Manchuria are the principal soybean producing areas of the Orient, that soybeans are widely used by all the groups of Orientals, save the Filipinos, and the Malays, and are universally used by the Chinese, and that wherever they emigrate in any part of the world, the one universal food of the Chinese is soybeans, and not rice, as so often claimed. There are millions of the Chinese who do not live in the rice producing territories. The Chinese and many of the Oriental people have come to understand by common experience rather than scientific deduction that soy protein is an essential to livelihood and cannot with safety be dispensed with from their diet. Wherever in Chinese occupied territories soil and climatic conditions are at all favorable to the production of soybeans, they will be found as one of the stable crops. However the yield in the tropical portions of China is rather small. They have depended on importing beans from Manchuria and northern China. The same is true of the South Sea Islands.

Foundation

Much that we have learned concerning handling soybeans and preparing them into food materials we must credit to the knowledge gained through studies made and travels in the Orient, chiefly in China, Korea, and Japan. Like their handling of many other things, they have developed the soybean culture and processing up to a certain point and there they stand. We have built upon their foundation, and have carried research in the agricultural field, as also processing methods several steps farther, and have made soya food products not only better but far more digestible, and therefore nutritionally more available, and found out that the bean can be made tasty as well.

You may ask how are the Oriental people using the soybean. There are many ways. If you were to visit the Chinese markets during the late summer and early autumn months you would be able to purchase shelled green soybeans. You would also be able to purchase the unshelled beans, that is in the pods just like you buy peas in the pod. Some people prefer to purchase them in the pods, cook them in the pods in salt water, and then squeeze out the beans and eat them from the pod. There have been no canning facilities available to the Chinese for any of their products in years past, and so the use of the green soybean is only seasonable. You might expect that since the Chinese have stone mills everywhere to grind their wheat and their corn into flour and meal that they would be grinding their soybeans into a flour. But soy flour is largely an Occidental product. It would be very difficult for you to pick up in any of the markets of China a pound of soy flour.

Curd

The Chinese have learned through long experience that the greatest value nutritionally from the soybean is obtained through a water extraction of its protein. This milky liquid after it is strained is coagulated into a cheese. Ninety percent and possibly even higher of the nutrition the Oriental obtains from the soybean is taken in the form of this cheese. Of course they have many ways of dealing with this soft gelatinous curd, which has a very high water content. They press it into cakes, about the thickness of a large slice of bread. This then is placed in a brine solution or other flavored liquid, and later sliced up like we at times dice cheese. Again it is pressed into thin sheets that are about a sixteenth of an inch in thickness. These are also diced up and eaten like a relish or a salad.

Another common product is a thin semi-transparent sheet of protein made by a slow beating vat filled with this soya milk. A heavy scum will come to the surface, which they lift off at intervals and suspend to dry. These sheets are later on used as food wrappers. They can use these sheets which are pure protein, like we can use cellophane sheets, but instead of wrapping parcels with them they stuff them with certain vegetables, imitating the body and legs of a fowl, or the form of a fish, or they can represent almost anything in the way of an animal, and by submitting them to a little baking, give the same nice brownish hue by the use of a little oil, so you could hardly tell whether you were eating actual turkey or an artificial one.

When you go to the market where the soybean producer delivers his finished products, you will see a great variety of foods made from soybeans. As I say, you can buy the bean curd in squares, or you can buy the patties, or you can buy the thin sheets of soya cheese, or you can buy these large semi-transparent sheets of soya protein. These in turn can be incorporated into many tasty and highly nutritious dishes, by the skill and ingenuity of the cook, and has also the likeness of meat in flavor and appearance. Naturally nutritionally we know of the high value of these proteins for a proper substitute for meat, fish, fowl, eggs, and the protein of animal milk.

Of course the Chinese have as one of their big industries the making of oil from the soybean, and that is true of the Koreans and the Japanese. They heat the bean, grind it, and put it into wooden presses and extract the oil by driving wedges into their oil presses, bringing a tremendous pressure to bear upon the roasted beans. This oil is all used for edible purposes.

The residue of the bean cake contains about 6 percent of oil, and has been exported in recent years to great extent. But the Chinese have in certain localities ground it up and used the bean cake meal for food, although much has been used in China and exported for fertilizer.

The soybean is also extensively sprouted, and these sprouts are used in their vegetable food mixtures and eaten as bean sprouts.

I shall not attempt at all to discuss the varieties of soybeans found in the Orient. I have seen almost every color, every shape and size, running from a small shot sized bean to the large jumbo sizes, such as we have in our edible list. All the beans that I have seen that come from India have been of a very small size. When we buy beans in China we go to the market and ask for soya beans. If we are not satisfied with what they have we go to another shop, and see if we can find a bean of superior size and quality. We never purchase soybeans in China by name of any variety.

DR. H. W. MILLER

As is well known, China and most parts of the Orient grow from two to three crops per annum on the same ground. In some areas when they harvest a rice crop they plant a soybean crop on the same soil. In other areas when they harvest a wheat crop they put in a crop of soybeans. We believe in many of our central states, and certainly this would be true of the southern portions of our central states, that it would be quite practical to harvest a crop of peas, and disk the land, and plant and harvest a crop of soybeans.

In the non soya producing parts of the Orient the people for generations are par-

(Continued on page 44)

How the FORD-FERGUSON TRACTOR CUTS SOYBEAN PRODUCTION COSTS

THE FORD TRACTOR. Rubber or steel tires, interchangeable. 4-wheel stability. Smooth, easy auto steering. Wheel width adjustable from 48" to 76". Individual rear brakes. Completely equipped—no extras to buy.

You know the profit formula for soybeans—volume production at rock-bottom costs. The Ford-Ferguson Tractor helps you get both.

1. SAVES LABOR. Anyone—young or old—can operate the Ford-Ferguson Tractor. It makes all farm work easier through finger tip control from the driver's seat.

2. SAVES TIME. The Ford-Ferguson Tractor speeds up plowing, preparation, cultivating and harvesting. Plenty of power to get the work done fast.

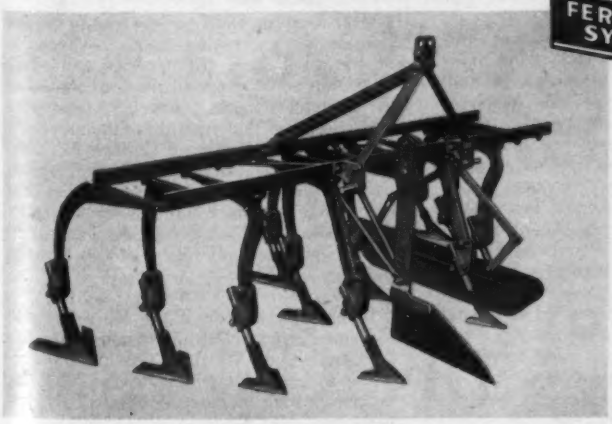
3. SAVES ON FIRST COST. The Ford-Ferguson is a lightweight tractor. With its normal complement of Ferguson implements, it saves a ton of metal—metal you don't have to pay for.

4. SAVES ON OPERATING COSTS. Because the Ferguson System builds up traction as needed, the Ford-Ferguson Tractor need not drag around dead weight. That saves gasoline. And the hydraulic linkage cushions the shocks that pass through the conventional drawbar—that saves wear and tear on the motor.

Get the "feel" of this modern tractor right on your own farm. Ask your Ferguson dealer for a demonstration.

HARRY FERGUSON, INC. **DEARBORN, MICHIGAN**

Ford Tractor
FERGUSON SYSTEM



FERGUSON ROW-CROP CULTIVATOR. An ideal cultivator for soybeans. Ample clearance. Two-way adjustable sweeps. Ferguson Hydraulic Control maintains uniform depth. Easy to operate—you keep your eyes ahead, for the cultivator follows the front wheels like a shadow.

WOOD BROTHERS COMBINE. Sold by Ferguson dealers. These famous combines have straight-through operation—a feature that means less bunching, better separation and a bigger yield.

THE OHIO EARLY VARIETY CAMPAIGN

By S. D. HOLLETT

• The disastrous fall season of 1942 with large quantities of beans remaining in Ohio fields forced on leaders the conclusion that something had to be done to prevent another such disaster. The Ohio early variety campaign, to sell producers on the need for adapted varieties, was the result. It was probably the most thorough undertaking of the sort in soybean history. Mr. Hollett is the manager of Swift & Company's Fostoria, Ohio, soybean plant.

SOYBEANS GO TO WAR! . . . . I am advised this is the slogan of this convention and it is indeed most appropriate. Intensive training started in Ohio early this year with the inauguration of a program for the better selection of seed stock with emphasis on early maturing oil rich varieties.

The bulk of the Ohio soybean crop is produced in the northern part of the state and, unfortunately, this section is subject to comparatively early fall rains. With an unfortunate tendency on the part of most growers to pay little attention to the maturity requirements of the varieties planted, there were thousands of acres of soybeans left in the fields because fall rains set in before beans had entirely matured. It needed last year's really bad season, however, before the "call to arms" was sounded. So, in mid-January, with thousands and thousands of bushels of Ohio soybean crop still in the fields, a special meeting was held in Columbus attended by the Ohio State University Agriculture Department faculty, State AAA representatives, farmers, elevator operators and the soybean processors. The campaign discussed is summarized as follows:

Summary

1. Selection of seed best adapted to Ohio growing conditions with emphasis on the early maturing varieties.
2. Making desirable varieties of seed available through local elevators and dealers. Keeping such varieties in Ohio for seed.
3. Early planting of seed in rows, width depending on available cultivating equipment.
4. Constructive planting before crop maturity to provide adequate harvesting equipment. Repair old combines and other harvest machinery in the summer.
5. Encouraging farm storage in sound, ventilated bins to avoid transportation and congestion at mills and terminal receiving points during the harvest peak.

Before the meeting had adjourned, specific plans had been adopted so that by seeding time every farmer in Ohio had heard of the campaign for planting early maturing soybeans.

Here is how it was done step by step:

The Agricultural Extension Service issued a special bulletin No. 224 which showed the various varieties best adapted in the different areas of the state, those areas being plainly marked on an outline map. Therefore, every farmer knew at a glance just what varieties were recommended by the Experimental and Extension Service Departments of the state for his respective locality. This bulletin was widely distributed. Also, the Baltimore & Ohio Railroad through the office of their Ohio Agricultural Agent, Mr. L. J. Miller, made available a supply of large colored posters, which pictured in an attractive manner the information contained in the special state bulletin. County agricultural agents distributed 750 of these posters, vocational agricultural instructors, 550, each of the 88 county AAA offices received a supply and country elevators, seed stores and feed dealers, to the number of 3,000, displayed the circular. There were also 50,000 small postcard size posters distributed direct to farmers.

You will see that every classification of the soybean industry was active in the program, with the result that every soybean producer was made conscious of the necessity for improving the quality of his soybean crop, and just as surely increasing his profits.

Cooperation

Too much praise cannot be given the State University Department of Agriculture and Agronomy. These institutions have been most cooperative in their efforts to solve the never ending problems of producing and handling this comparatively new crop, but this time they went all out in their efforts. Mr. D. F. Beard, extension agronomist, furnished all processors with a list of names of the members of the Ohio Seed Improvement Association, of which he is the secretary-treasurer. The processors wrote the members of the organization located in their respective territories, requesting the names of the purchasers of the specified early maturing varieties of seed beans. These letters explained the purpose for making the request, and that the information would be used only in an effort to further distribute available seed stocks of the approved varieties. Mr. Beard also issued a general letter to the membership of the association advising them in advance of the program, and suggesting their cooperation.

The result was most satisfactory. For example, my office wrote 21 seedsmen and we received 19 replies enclosing lists of the purchasers. I understand that other processors had comparable results.

The next step was to sort the names furnished by the seedsmen as to location. This done, another series of letters was written to the country elevators and the names of the purchasers of the approved varieties of seed beans were given to the elevator manager, who was urged to get in touch promptly with the parties named to ascertain if any of the specified varieties of beans were available for seed purposes. Again, the results were astounding as reports have come to us that many country elevators procured stocks of seed from the sources we furnished. The effort also promoted supplying seed requirements between the farmers themselves. All this is now becoming more and more evident as the largest bean crop on record in Ohio nears maturity.

It Clicked

This program was worked out and put into practice with a minimum degree of effort and a maximum degree of effectiveness, which was due to the 100 percent spirit of cooperation among all parties concerned.

This spring we were plagued with perhaps the most unfavorable planting season on record. I am afraid to tell you how late some soybeans actually were put into the ground, but now the condition of the crop is just about normal for the current season, and as this is being written, with the continuation of another week of normal growing weather, we will probably be well above the 10 year average. It is difficult to state to just what extent the greater use of earlier varieties has contributed to the present advance of the crop, but it is safe to assume that the Richland variety, one of those recommended in the campaign, is now perhaps the leading variety in use over much of the soybean belt of northwestern Ohio. Many lots of good Richland beans were cleaned and sold for seed that would otherwise have been crushed had it not been for our campaign for earlier varieties. The Mingo has also gained in popularity as a result of these efforts.

Results

To say that the gaining of ground lost by late planting is due entirely to the fact that more earlier maturing beans were planted this year than ever before would probably be putting it too strongly. But, it is a positive fact that more early maturing beans were planted this year than ever before. In a recent letter from our extension agronomist, Mr. D. F. Beard, he says in part:

*"The campaign was most timely because of rank growth, lodging and the tardy harvesting of the 1942 crop. * * * A larger number of Ohio farmers will have ripe beans in condition for harvesting and shipping this fall than they would have had with the varieties they grew a year ago. The switch to our recommended varieties probably took place on 25 percent to 30 percent of Ohio farms this year."*

Over here in Ohio we are proud of the position we are taking in the soybean industry. I believe the records will show that Ohio acres out-yield those of the other three great soybean producing states, and it would seem that with the untiring efforts of the State Agricultural College in developing and experimenting with the various varieties in an effort to determine those best adapted to all the conditions in our state, that we have without doubt taken the greatest forward step yet taken by the soybean industry in Ohio.

—s b d—

Peter Marr, owner of the Marr Soybean Mills at Fremont, Nebr., has announced the appointment of W. B. Early, also of Fremont, as general manager of the Marr Industries, which include the Marr Coal Company and Marr Grain Company, in addition to the soybean mill. Early resigned as general manager of the Nebraska Defense Corporation in order to accept the position. He has had 23 years experience as industrial engineer, including 18 years with the Firestone Tire & Rubber Co.

Light on the Way

A SYMBOL of all that America stands for is the Statue of Liberty.

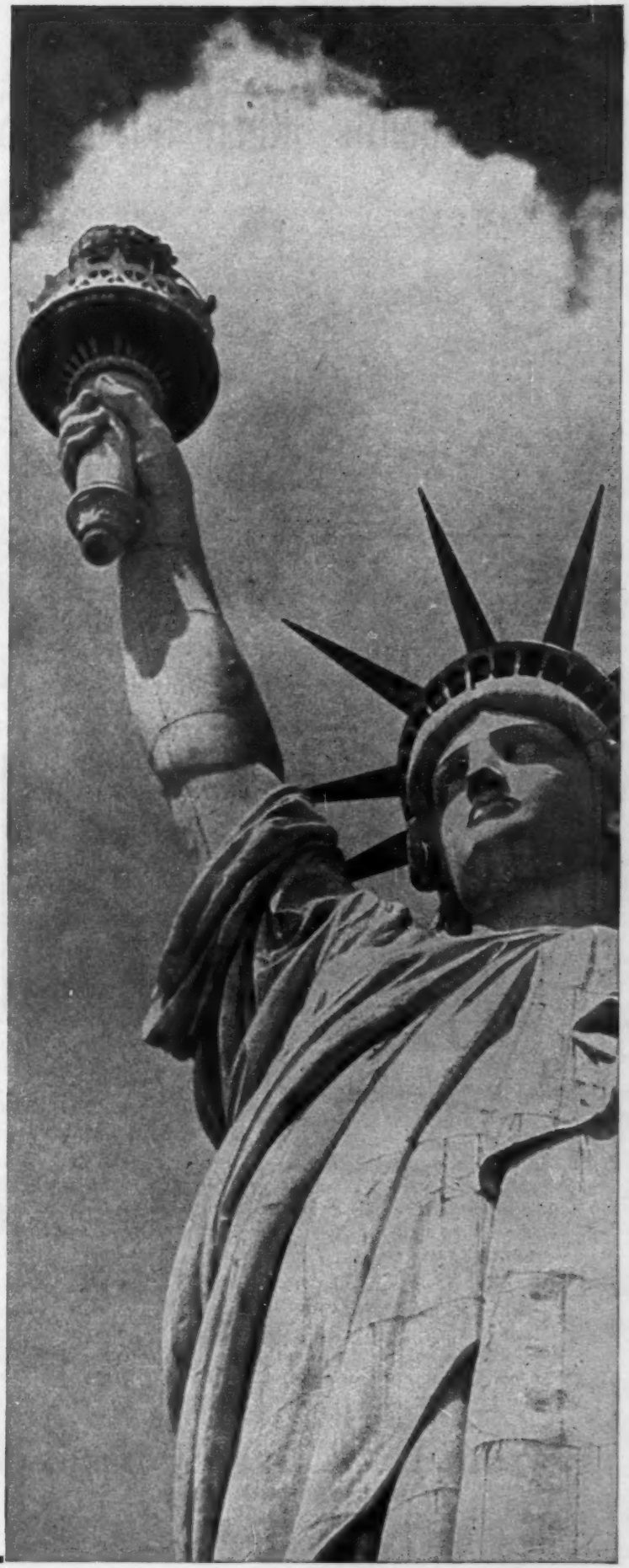
Proudly she holds her torch high, guiding men in the way of freedom—freedom of religion, of speech, of enterprise—freedom from want and fear.

Today, we are engaged in a war to preserve that freedom for ourselves and to make its blessings available to the world.

This freedom carries with it an obligation . . . an obligation that calls for sacrifice from all of us . . . a sacrifice we make gladly, proud of our part in retaining and in sharing the blessings of freedom.

More than 3,000 John Deere employees are in the armed services. Those at home are buying War Bonds, working for the Red Cross, carrying on defense activities, cultivating victory gardens. John Deere factories are busier than they have ever been, producing farm equipment to the limit permitted by government regulations, as well as turning out huge quantities of war materials.

And looking forward to the day when the world will again be at peace, John Deere is continuing research and development of new machines and of improved old ones, lighting the way to an easier, happier, more abundant agriculture.



JOHN DEERE

Moline, Illinois

Problems of

PROCESSING GREEN SOYBEANS

By H. R. SCHULTZ

LOOKING back over the past twelve months most of us in the processing business will admit that we crossed a good many bridges before we came to them. First cause for alarm was the expected difficulties of operating under a Government contract. The idea of running our mills without the freedom of buying and selling as our best judgment dictated was distasteful and the whole scheme was thought to present impossible difficulties.

However much we were displeased with the thoughts of having to operate under government regulations the experience in the end proved not nearly so bad as most of us had expected. During the first few weeks, of course, the newness of the thing, the voluminous reports we were required to make and the average individual's opposition to regimentation were unpleasant to put up with. It must be said, however, to the credit of certain individuals in Commodity Credit, whose job it was to operate the soybean program, that through their exercise of patience and fairness we were able to do business with a minimum of interference and with a fair degree of success. The green bean problem, however, stayed with us for twelve months and, particularly during the early part of the season, gave cause to much disagreement and occasional ill feeling between processors and country shippers. Lack of agreement on the dividing line between sound and damaged beans has been a continual debate and even now, after the experience we have had, is a hard matter to contend with.

When processors signed their Commodity Credit contract it unfortunately made no provision for buying sample grade beans. The rules, likewise, did not state clearly how frozen beans were to be classified and, as a result, the industry — growers, country shippers and processors alike — were thrown into confusion when a large part of the crop in Iowa, and to some extent in other states, was badly damaged in the September freeze. None of us knew how serious the effect was to be on the weight and quality of meal and oil. We could only guess and we were pretty sure that we were going to have plenty of trouble.

There seemed not much question but that frozen beans would produce a normal weight of meal and probably of a fair quality, but about the oil we were not so sure. A difference of opinion quickly developed. There were those who contended that the oil recovery could not possibly be anywhere normal, while some few, more optimistic, believed the loss would be negligible. No one knew. Each processor had his own ideas and, of course, until that question was settled no one could say what the buying basis or the discounts to be applied should be. In the meantime, the term "green beans" came into general use. There were probably at least 20 million bushels of them in Iowa alone and the big question in the minds of all of us was "How much of the damaged crop can we salvage and what should the grower receive?"

Controversies

The experience of the mills that were first to start operating on green beans showed that the oil recovery was much better than had been expected and, based on this information, Commodity Credit on October 22 produced a new scale of discounts which provided that instead of 2c, green beans should be discounted ½c for each 1% of damaged kernels in excess of 8%. That however, did not solve the problem because there was a wide difference of opinion as to where the dividing line should be between sound and damaged green beans. As a consequence, controversies soon developed between growers and buyers. Even federal inspectors, skilled in the job of distinguishing between sound and damaged grain, did not always agree. This situation has continued more or less throughout the year.

Although the amount of meal and oil which a bushel of beans will produce must first be considered in arriving at the price to be paid for soybeans of any grade, there are other factors that have an important bearing. Quality of the product certainly must be considered and in the case of the green beans we have been milling this year that became quite an item. We soon learned last fall that the dark green, almost black, oil we got from frozen beans had to be discounted on the market. Refiners demanded, and in justice received discounts running generally from $75.00 to $150.00 per tank car. Allowances of several hundred dollars per tank car were not uncommon on off color alone. Most of the oil showed a break test higher than that permitted by the Industry's Trading Rules and adjustments had to be allowed to take care of that, also. On the

(Continued on page 48)

• *Last year's green damaged beans also caused the processor no end of trouble, including slowing down of operations, greater expense and confusion concerning proper grading of the beans. Mr. Schultz, manager of the Standard Soybean Mills at Centerville, Iowa, is one of the pioneer soybean processors in the Midwest. He is president of the Iowa Soybean Processors Association.*

To get the highest market prices for your livestock . . . and help alleviate the meat shortage . . . give your farm animals feeds that have a high protein content. Feed made from soybeans is one of the best sources of protein at the lowest possible price!

Whether you feed your livestock soybeans in the form of meal or hay or cake . . . it will increase productivity and health. It is more essential than ever now . . . to raise healthy, sound livestock for the tables of America and the mess-halls of our own fighting and Allied soldiers. The feed you give your livestock can help bring Victory about . . . sooner!

Funk Bros. Seed Company
BLOOMINGTON, ILLINOIS

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...but ONE is "BEST IN THE SHOW" for You

Packaging requirements in varying industries are widely divergent. With some packers greyhound-swift production takes first place. Others look for speedy operation with true scottie economy; while still others want inexpensive, bulldog-grip closure. When you review the many "points" of the three St. Regis Packaging Systems, you will see why each is a winner in its own field. Like heavy duty St. Regis Multiwall Paper Bags, each is designed for the efficient and economical packaging of the product or products for which it was intended. Each does its particular job – and does it well!

Because we have this complete range of filling and closing equipment, we can give you *unbiased*, authoritative advice.

VALVE PACK — *Maximum Production With Minimum Manpower.* St. Regis Automatic Packing Machines (Belt, Screw or Impeller type) preweigh your product and swiftly propel it into self-closing, valve type Multiwall Paper Bags. Gravity Type Packers are also available for filling Valve Bags.

SEWN PACK — *Efficiency Closure For Open Mouth Bags!* Quantity users of open mouth bags find the St. Regis Sewn Pack System best suited for their needs. Automatic sewing machines apply a bound-over tape and filter cord, and sew through all plies of the bag. Speedy operation and uniformly sift-proof closures recommend this system.

TIED PACK — *Dependability and Economy.* The St. Regis Wire Tied Pack System enables the packer with moderate or non-continuous production to close his open mouth bags efficiently and quickly without automatic equipment. A hand twisting tool constitutes the entire equipment for effecting the securely tied closure around the neck of the bag.

CONSULT ST. REGIS – Through his technical training and practical experience in *your* industry, a St. Regis Packaging engineer can quickly help you determine the System best suited to your requirements. His advice on the selection and installation of the correct and complete packaging system is part of St. Regis' Specialized Service.

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MULTIWALL
PAPER BAGS

St. Regis Bags have 3 to 6 independent walls of tough kraft paper fabricated in tube form, one within the other, so each bears its share of the load. Chemical, physical properties of product determine number and weight of kraft and special sheets.

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Progress of

DOMESTIC CONSUMPTION OF SOYBEAN PROTEINS

By E. L. RHOADES

● *Soy foods leapt from obscurity into the limelight with last year's convention of the American Soybean Association. Since then, new developments have come with surprising rapidity. Mr. Rhoades, who is secretary of the Soy Flour Association, has had many years of experience in the foods field, including the editorship of food trade magazines.*

WHEN the quiet, unassuming Dr. Jones told you at Purdue last year what a small percentage of soybean protein would do in making the proteins of other foods fully effective and provide more strength and vitality for the citizens of the future, he fired a shot that was heard literally around the world. I know it was heard in London; I know it was heard in Moscow; I know it was heard by several governments in exile. The facts he disclosed, based on careful research, have become the basis of the use of soybean proteins throughout the world in the future.

The quiet talk by Dr. Jones was also heard throughout the food trades in the United States. It was not only heard by the industries furnishing food to the American people, but it was heard sympathetically, and accepted as a challenge for the nutritional improvement of foods that they were manufacturing. As a result of this information and similar information made available from elsewhere, more than 75 million people in the United States have, since the Purdue meeting, eaten some soybean protein in some palatable and attractive form, provided in small percentage by a large number of food manufacturers who promptly accepted the nutritional challenge. It is indeed difficult today for the average person to avoid consumption of some small percentage of soybean protein. If consumers buy doughnuts or sweet rolls, or pies, or bread, or soups, or meat loaf, or other sausage items, or candy bars, or many other items of frequent purchase, they will get soybean protein in some of it, and they will work a little longer — a little easier — with a little more vitality as the result of it.

There has been a general misconception of the role of soybean protein. Many people have apparently been looking forward to some day when a bright light would suddenly descend from heaven, and suddenly it would be announced that soybean protein is now on the market, available to the consumer in all the retail stores. The advent of soybean protein has been and will be no such conspicuous affair. It is another one of those things that cometh not with observation, but is more like the grain of mustard seed that, when planted, grows gradually into amazing proportions. Soybean protein is here! And it is here to stay in the American diet. It is here to grow into constantly greater and more varied supplies of protein in attractive, palatable foods.

At the time of your Purdue convention last year, there was but one small, struggling brand of soy flour for general commercial distribution. There are now 12 such brands. Some of them that will be appearing soon are backed by strong companies with careful research, careful merchandising plans, and adequate finances to carry through to success. The last six months has been a period of exploratory, experimental merchandising through the retail stores to determine the commercial behavior of the product, without much attempt to give publicity or advertising support. *The months of October and November are very likely to change this picture, with retail packages of soy flour becoming much more readily available through many more retail stores.* Many housewives will need to learn the use of this new product from the recipes enclosed in packages or printed on them, and will need to learn the lesson that soy flour is a highly concentrated protein to be used in small quantities in many foods.

To provide more fundamental information on proper uses of soya by the housewife, hotels, restaurants, public institutions and food manufacturers, the Soy Flour Association established during the year a Soya

(Continued on page 26)

Order Your Steinlite NOW!

The STEINLITE
One Minute
Moisture Tester

Please place your order now — while shipments can still be made immediately. If you wait until harvest season begins, we may not be able to fill your order promptly at that time. Last year too many firms waited until the last minute to order their Steinlite, and the factory was so jammed with orders that many were disappointed on deliveries. So order your tester NOW and receive immediate shipment.

FAST, ACCURATE AND EASY TO USE

The Steinlite has fast grown to popularity — having over 3800 users — and for a very good reason. It is Fast, Accurate and Easy to Use. An experienced operator can make a test in about one minute which is plenty fast — otherwise a test can be made in 2 or 3 minutes which is a tremendous saving compared to the old time methods. The Steinlite is accurate — manufactured by expert radio engineers and technicians, and is calibrated against official Government oven methods. It is Easy to Use — about as easy to use as a radio. Upkeep is negligible.

"HEADQUARTERS" for Grain Testing Equipment and Accessories

Since 1912 Seedburo has been the leading source of laboratory and testing equipment for the grain and feed industries. Seedburo equipment is tops in quality — made of the finest materials available — built by skilled craftsmen and widely assorted — hence the term "Headquarters for Testing Equipment."

Send for our new 1943 catalog

SEEDBURO EQUIPMENT COMPANY

629 BROOKS BLDG., CHICAGO 6, ILL.

Tomorrow *a Motor Car Body, a Square Meal and a Suit of Clothes* from the same crop!

IN THE test-tube of Science, a vegetable which for thousands of years had given man food and oil, suddenly revealed a storehouse of hidden riches.

And as a result of Ford pioneering in organic chemistry, soon a motor car body, a nutritious meal or a fine suit of clothes can be made from this self-same vegetable—the soybean! Durable fabrics, for instance, are woven from Soylon, a new synthetic wool-like fiber, produced by Ford, which tests prove to be highly useful for many purposes.

Moreover, this remarkable soybean, at the scientist's touch, is producing an amazing variety of other useful products, such as enamels, paints, soap, pressed board, building materials and molded plastic parts for airplanes and automobiles, replacing critical materials for many manufacturing uses.

From this one crop we today foresee better, cheaper clothing, self-sufficiency in certain vital oils, and an inexhaustible source of raw materials for scores of modern industrial products.

No wonder, with our increased knowledge, that the soybean crop has grown from 50,000 bushels in 1914 to more than 200,000,000 bushels in the present year In a few years, it has become the staple crop of some of America's largest agricultural states. Yet, the new sources of earth-wealth, opened by industrial chemistry, have barely been scratched.

American farmers grow for commercial car-lot sale about 200 different crops.

And organic chemistry in a short span of years has developed a myriad of new uses for these agricultural products.

Now chemists here at Ford are exploring the possibilities of finding industrial uses for some of the other 300,000 plants which botanists have identified.

Henry Ford and Harry Ferguson, close collaborators in creating today's Ford tractor with the Ferguson System

The Ford tractor and hydraulically controlled, wheelless plow are designed and built as a unit. The basic idea of this development is to permit economical and profitable mechanized operation of small as well as large farms.

At the Ford Research Laboratory, the test-tubes of science constantly seek other undreamed-of uses for more farm products — profitable employment for more farm acres.

Some of the Farm Products Used by the Ford Motor Company in a Normal Year of Car Production

2,000,000 Pounds of Soybean Oil
89,000,000 Pounds of Cotton
800,000 Bushels of Corn
2,400,000 Pounds of Linseed Oil
2,500,000 Gallons of Molasses
3,200,000 Pounds of Wool
1,500,000 Feet of Leather
1,000,000 Pounds of Lard
350,000 Pounds of Mohair

Many farm materials formerly used in Ford car manufacture are now devoted to war production. But when the return of peace again sets the Ford car production line in motion, the new car demand which has accumulated during war years will require even greater amounts of agricultural products as raw materials.

Such comparative newcomers as guayule and milkweed, as sources for rubber, indicate the almost limitless opportunity for expansion in this direction.

And as cheaper means of conversion are found, marketable value will be given to 250,000,000 tons of agricultural materials now practically wasted.

The time is not far, when a permanently prosperous farm-industry will banish mass unemployment and give new meaning and stability to American prosperity.

FORD MOTOR COMPANY

Ford

Soy Protein Consumption

(Continued from page 24)

Kitchen, in charge of two extremely competent authorities, to develop the best and simplest methods of use. There is now on the press a preliminary book of recipes which will be very helpful in promoting sensible and proper use. Some of the soy flour companies have, at great expense, had elaborate cooking tests made of their products. The resulting recipes are quite attractive, and some of them will soon be available for general use. The Division of Home Economics of the U. S. Department of Agriculture has carried on exhaustive tests during the past year at great expense. We understand that a quite comprehensive book of recipes will soon be available in very large numbers from that source. National magazines and newspapers have, in their kitchens, been making extensive tests of Soya recipes; have published and are publishing many of them, and have in reserve many more with which to carry on the educational campaign as soy flour and soy grits become more readily available to the public through the retail stores.

Merchandising

The National Food Distributors Association, National Association of Food Chain Stores, the National Retail Grocers' Association have all helped to pave the way for the merchandising, not only of soybean products in their pure form, but of other foods containing substantial percentages of these proteins. They have been inspired in part by the phenomenal success of soy pancake mixes and certain other soya items that were rather instantly approved by the public for flavor, color, and texture, along with the nutritional advantage as a plus element.

Soy Macaroni

The National Macaroni Association has organized a program for soy macaroni products that apparently will be of considerable dimensions. The National Confectioners Association is collectively attempting to improve the nutritional and technical qualities of candy by the addition of more protein for the candy of the future. The American Bakers Association and the leading bakery laboratories of the United States have cooperated with the soybean industry both in the production of proper products and the clarification of Federal standards for such products. The National Restaurant Association has been providing its members with recipes for the use of soybeans and soybean products. The Iowa Hotel Association has asked for a program on soybean products at their convention in this city the last of this week. Other associations of great significance in the food trade, furnishing food to millions of people, have shown that they are alert to the role that soybean protein is to play in the nutrition of the future.

In the process of expanding and converting plant capacity to meet any possible needs for export of proteins to unfortunate countries during the emergency, the processors of soy flour have introduced in the course of these plant changes all of the most modern and most scientific ideas they had on the improvement of the flavor, color and nutritional value of the product. Soy flour is even better this year than it was last year. Many food manufacturers who did not like it before think it an excellent product now.

To make sure that this new protein food is launched and handled on a sound, scientific basis, there was organized by the Soy Flour Association, the Soya Food Research Council, among its members outstanding scientists of the industry, and operating on a policy that all developments must be nutritionally sound, regardless of commercial temptations to operate on less constructive lines. Public nutritional authorities in Washington and elsewhere in the United States are personally cooperating with this new council in a very healthy manner. Three specific research projects have already been placed by the council in universities of highest rating, and other scientific problems will be approached in the same manner by competent, unbiased scientists to guard this food development along sound and permanent lines.

Plus Element

The American people will continue to draw their major protein foods from meat, wheat, milk, eggs, cheese, and the like in the future as they have in the past. It is not expected that there will be any dietary shift away from these proteins to soybean protein. Soybean protein foods will play a different role. They will be a plus element for better nutrition in the future. The contribution of soybean protein to the national diet probably will be qualitative rather than quantitative.

3,000,000 pound storage and workhouse for a well-known food product.

Opportunity is Knocking

THE door stands wide open! The soybean is coming into its own, serving (1) as a much needed food product, and (2) as a supplier of valuable raw materials for industry.

But, as with so many other bulk materials, the handling and storage of soybeans have a definite bearing on the economy of operations. To such problems — **to your problem** — Nicholson can bring a specialized engineering and construction experience dating back to 1914. The name Nicholson has long been identified with facilities for handling and storage of all kinds of bulk materials, including wheat, corn, beans, coal, cement, oil and chemicals. You are invited to consult with our experienced engineers in planning your new or enlarged soybean processing plant.

9-NC-2

BULK STORAGE · COAL-GRAIN-LIQUIDS STORAGE · HANDLING EQUIPMENT

THE NICHOLSON CO.

CONSTRUCTION · CEMENT-OIL-CHEMICALS

TEN ROCKEFELLER PLAZA, NEW YORK 20, N. Y.

ARE YOU one of the fortunate soybean growers who were able to buy a new or used McCormick-Deering Harvester-Thresher for this year's harvest? If so, there is no more patriotic way for you to help the equipment and manpower shortage than to share your combine with your neighbors. Perhaps straight custom work is the solution. Other owners may prefer to arrange a "swap the work" schedule.

If you had hoped to buy a new or used combine this year, but were disappointed because there weren't nearly enough to go around, arrange with a neighbor who has one to harvest your beans. You can do something for him in return . . . share your corn picker, your hammer mill, or your tractor and plow.

Whatever plan you work out, remember this: McCORMICK - DEERING HARVESTER-THRESHERS handle soybeans with a minimum of cracking. They do a thorough, clean job.

Meanwhile, stay by the International Harvester dealer in your locality. He will treat you right and help you in every way he can to keep your present equipment producing FOOD TO WIN! If you need a new combine, put in your order now for 1944, when manufacturing quotas will be considerably increased.

INTERNATIONAL HARVESTER COMPANY
180 North Michigan Ave., Chicago 1, Illinois

KEEP SCRAPPING . . . Turn in your old parts as scrap when you buy new parts . . . and KEEP ON BUYING WAR BONDS.

McCORMICK-DEERING
HARVESTER-THRESHERS...for All Grains and Seed Crops

What the Soybean Means to Iowa

By CLYDE SPRY
Assistant Secretary of Agriculture

I CONSIDER it a privilege and an honor to welcome you to the second greatest soybean producing state in the nation.

The subject assigned to me "What the Soybean Means to Iowa" is a subject in its infancy, as far as the known possibilities of the soybean are concerned. There is no doubt but what it will become the outstanding cash crop of this region.

In 1929 the first processing plants were built in Iowa; one at Centerville, by the Standard Soybean Company, and the other at Cedar Rapids by the Iowa Milling Company, which is now Cargill Inc. These plants operated on a part-time basis the first few years. Plants were added from time to time until in 1942, 11 plants were in full time operation in the state; however, the enormous crop raised had the existing plants overcrowded so the next move was to secure equipment for more plants and enlargement of the existing plants. Therefore, 14 new plants are being constructed, all of which will be in operation in time to help process this year's crop of beans, estimated at 45 to 50 million bushels. These 25 plants in Iowa are situated in the heavier producing areas. There is one plant in the southern tier of counties, one in the second, none in the third tier, one in the north tier of counties and the rest rather well distributed over the remainder of the state. These plants will be able to process 25 to 30 percent of this year's crop. Now as in the past, plants in states adjacent to Iowa will be operated largely on beans produced in Iowa.

CLYDE SPRY

The 14 new plants being built this year contain 20 expellers and 3 solvent plants.

The capacity of the 11 plants in operation in Iowa last year was estimated at 10,000,000 bushels. The 14 new plants have an estimated capacity of from 6 to 6½ million bushels when fully developed. This will mean that approximately 16 million bushels will be processed in Iowa, which is about one-third of the expected production in 1943. The oil produced from the beans processed in Iowa would amount to 67,500 tons of oil for commercial use, with 375,000 tons of soybean meal for the feeding of livestock. This will mean also that there will be a far greater amount of protein feed available in the area where it is most needed.

—sbd—

REGIONAL LABORATORY

(Continued from page 8)

1. Developed and released through cooperation with state experiment stations the Boone, Chief, Gibson, Patoka, Earlyana, and Lincoln varieties — high-yielding yellow-seeded types of high oil content adapted to a wide range of soil and climatic conditions — for industrial purposes.

2. Developed and distributed to cooperating plant breeders a large amount of hybrid material for further testing and selection.

3. Showed that chemical composition, yield, and general agronomic desirability are characters of the greatest value in developing superior types.

4. Showed by a survey of soybean diseases that certain diseases are increasing in prevalence and are a distinct menace to production in many of our large seed-producing areas.

5. Proved by date-of-planting studies that late varieties at a particular location yield proportionately less than early varieties when planted at a later date.

6. Showed by extensive studies that the chemical constituents of the same variety grown under different climatic conditions differ markedly.

7. Showed that rate of planting has no effect on composition of the seed but does affect yield.

8. Published numerous technical and practical reports and bulletins to assist plant breeders and processors in their respective fields.

9. Showed that fertilizer treatments applied to several soil types in the north central region did not have any marked influence on composition of soybean seed. Treatments applied to soils of low productivity, however, did result in significant increases in yield.

10. Showed by physiological research that varieties grown at warm temperatures produced seed that were higher in protein, ash, and calcium content, but lower in sugar content. The iodine number of oil was lower also under warmer growing conditions.

IN 1942, the territory within 25 miles of the Nickel Plate Railroad in Ohio, Indiana, and Illinois produced —

87,467,400 bushels of soybeans

which is

41% of the entire United States crop

and which earned

$130,000,000 for the growers in this area

These soybeans loaded in freight cars placed end to end would form a train the length of any one of the three Nickel Plate districts — namely, from Buffalo, through Cleveland and Ft. Wayne, to Chicago — or, from Sandusky, through Lima, Muncie, and Indianapolis, to Peoria — or, from Toledo, through Delphos and Kokomo, to St. Louis.

NATURALLY, THE NICKEL PLATE IS VERY SOYBEAN-MINDED

NICKEL PLATE ROAD

War has proved to us the surprising fact that greatly increased amounts of soybean oil meal in rations give excellent feeding results. Many good rations (particularly hog and poultry) now contain two to three times as much soybean oil meal as was thought desirable before the war.

It "happened", perhaps, because of the war—but if war rations give as good—or better—results, for less money . . . it is certain that the continued use of high percentages of soybean oil meal in all rations will continue indefinitely.

The proper use of protein concentrates is good patriotism — and good economics. Based on records of performance, the liberal use of Staley's Soybean Oil Meal offers you a real opportunity.

The Staley Customer NEVER GUESSES-He Knows!

FEED DIVISION

DECATUR, ILLINOIS **A. E. STALEY MFG. COMPANY** PAINESVILLE, OHIO

Revise Bean Yield Forecast Upward

CROP prospects continued to show improvement during August and early in September. In most sections soybeans were remarkably matured considering late planting dates. Though moisture was plentiful in most areas, some sections, notably Arkansas and south, were experiencing severe drought.

The U. S. Department of Agriculture has revised its yield forecasts upward, predicting now a total national yield of 208,700,000 bushels, which is only slightly below the official estimate of 209,559,000 bushels for last year's crop. The August 1 forecast was for 200 million bushels.

The acreage of soybeans for beans is placed at 11,480,000 acres, an increase of 7 per cent over the 1942 estimate of 10,762,000 acres.

The indicated yield per acre is 18.2 bushels, against 19.5 bushels in 1942 and the 10-year average of 16.7 bushels.

Digest correspondents' September 1 reports follow:

Illinois

Frank S. Garwood & Sons, Stonington, for south central: Many fields late soybeans probably will not mature before frost, though general crop looks better than thought possible at planting time. Expected yield 75 percent normal, 20 bu. per acre. More used for hay in 1943 (4 to 5 percent total) than in 1942. Total yield approximately same as last year.

Russell S. Davis, Clayton, for west: Maturity 3 weeks late. Estimated per acre yield 15 to 16 bu., total yield 80 percent normal. Frost will determine percentage for hay. Will be higher than 1942. No other legume hay. Top pods just now setting on all later plantings. Hot, dry weather hastening ripening of first plantings.

Iowa

Howard L. Roach, Plainfield, for northeast: Sept. 1 maturity and condition 100 percent. Total expected yield 110 percent of 1942, 25 bu. per acre. 15 percent for hay. Just returned from western and central Iowa and beans look good at all places.

Indiana

J. B. Edmondson, Clayton, for south central: Maturity 1 to 2 weeks late. June 1 planting practically caught up with normal. September 1 condition 110 percent if frost holds off until Oct. 10. Estimated yield 21 bu. per acre. Percentage for hay about as last year. Rather extensive lodging followed rapid, tall growth. Row beans standing better and podded heavier than solid. Lodging may cause considerable damage if fall wet.

Ersel Walley, Walley Agricultural Service, Fort Wayne, for northwest Ohio and northeast Indiana: Maturity 2 weeks late. Growth more vigorous and greener than usual. Pods well filled. Estimated per acre yield 25 to 30 bu. If frost late total yield will exceed 1942. Still need late fall to mature crop. Practically none for hay.

Ohio

R. D. Lewis, Dept. of Agronomy, Columbus: Except in north maturity generally normal. Estimated per acre yield 19 to 20 bu. Total yield 5 percent above 1942. Maturity and condition of crop almost unbelievable in view of late planting. Results of cooperative program to extend use of earlier and superior varieties evident throughout soybean growing areas. Percentage for hay about as 1942, less than originally expected as abundant rains resulted in good crops of other forage.

W. G. Weigle, Van Wert, for northwest: Maturity 2 to 3 weeks late. Some fields have formed pods, others still blossoming. Estimated yield 20-25 bu. per acre, 90 percent of 1942. Acreage about same. Very little bean hay in this country. Continued rains throughout August have kept beans growing steadily. Warm, dry weather needed to mature and ripen crop. Early frost would be disastrous.

Arkansas

Charles F. Simmons, extension agronomist, Little Rock: About 400,000 acres planted for oil. Over 80 percent varieties that mature about Oct. 8 to 20. No general rain in Arkansas for 10-12 weeks. If harvesting for hay continues as rapidly during next week as in past, well over 50 percent of beans cut for hay.

Jacob Hartz, Stuttgart, for east central: Most drastic drought since 1930. Most early varieties cut for hay because of drought, balance will not make beans. Medium and late varieties will make half crop if good rains in week or 10 days. Estimated yield 5 to 7½ bu. per acre, total one-fourth to one-third of 1942. 65 to 75 percent for hay, one-half more than 1942.

Albin Anderson, Dewitt, for Arkansas County: Maturity about normal. 75 percent oil beans cut for hay because of severe drought. Many farmers have cut total crop for hay because beans failed to pod. Total yield about 10 percent 1942. Some fields irrigated and are okay, but dry hot weather has taken large toll. First rain since May fell Sept. 1, which might help beans that are left.

Missouri

J. Ross Fleetwood, extension specialist, Columbia: Still too early to predict yields since still dry and hot in southeast where nearly one-half beans grown. Hot dry weather during last 10 days of August seriously damaged yields. If rains come soon yield still about 10 year average. In north where rain is not factor, crop late and early frost could do much damage. 25-30 percent for hay, about as last year.

Kentucky

Ralph Kenney, Experiment Station, Lexington: Maturity 10 days late. Drought hastened maturity and reduced interval due to late planting. Estimated per acre yield 14 bu. Total yield not over 80 percent 1942. 50 percent for hay. (Kenney says estimates not considered reliable for lack of sufficient field observation.) Drought prevailed in August in concentrated seed bean area around Henderson and Owensboro as well as most other areas where increases made for seed production. Beans at $1.80 per bu. not worth as much per acre as hay at $25.00 per ton. Many growers with livestock have only half as much hay as last year.

North Carolina

J. A. Rigney, Agronomy Department, Raleigh: Maturity normal. Estimated 3,300,000 bu. Average 14 bu. per acre. Drought in some areas.

South Carolina

W. R. Paden, Agronomist, Clemson: Crop late making seed. No official estimates received, but crop fair although seed slow setting. Crop maturing fairly rapidly, about 78 percent as compared with normal of 71 percent. Yield of seed probably low as usual — about 6 to 8 bu. per acre.

Wisconsin

Geo. Briggs, extension specialist, Madison: Maturity 90 percent of average. Sept. 1 condition fair to good. Heat damaged seed setting in parts of state. Expected yield 85 to 90 percent of normal, but above 1942. Estimated per acre yield 12 to 20 bu. Percentage for hay 10 to 25 percent, or one-half of 1942 percentage.

Minnesota

W. G. Green, Lakefield, for southwest: Maturity about normal. Condition good. Expected yield 100 percent of normal. Estimated per acre yield 20 bu. Very little for hay.

(Continued on page 32)

DANNEN

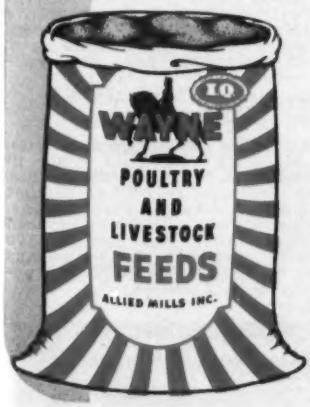
WHEN YOU NEED HIGH PROTEIN
FEED
or have
SOYBEANS
TO SELL
Call or Write
DANNEN MILLS
ST. JOSEPH, MISSOURI

MORE FOOD PER BAG

That's the challenge to the American Farmer in meeting the demands for more food for our armed forces—our civilian workers and our fighting allies. In spite of the labor, equipment and feed shortages—that food will be produced—the American Farmer always "comes through".

Proteins, grains and other vital feed ingredients are scarce, making it necessary to conserve and stretch your feed supply as far as possible. Use high-quality feeds . . . like Wayne, whenever possible. Through painstaking research, the quality of Wayne has been maintained and the Wayne Feeding Programs are practical and economical, helping feeders get the most profitable results.

But, regardless of what kind of feed you are using—feed carefully—eliminate waste by culling frequently . . . housing properly . . . and by practicing sanitation. Efficient use of feeds is good business any time, but vitally important under wartime emergency conditions. See your Wayne Feed Dealer—he'll be glad to help you in every way possible to get more food from every bag of feed.



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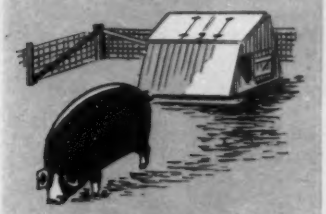

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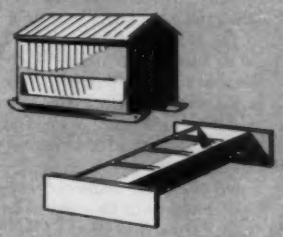

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USE HIGH-QUALITY FEEDS

Food and Drug Administration Unrepresented at Conference

• *Following the recent amazing ruling by the Food and Drug Administration limiting the use of soy flour in bread to insignificant amounts, which is in the face of overwhelming evidence that such use is highly beneficial to the product, the American Soybean Association invited the Administration to send a representative to the War Conference at Cedar Rapids. The Administration declined to send such a representative. Thereupon the Board of Directors of the Association authorized Secretary George M. Strayer to write the letter which follows:*

Hudson, Iowa
September 6, 1943.

Mr. W. G. Campbell
Commissioner of Food and Drugs
Food and Drug Administration
Washington, D. C.

Dear Mr. Campbell:

In reading the Federal Register of August 3, we were amazed to find that soy flour, which has been used substantially by bakers as a method of improving the nutritional and technical qualities of bread was, according to the proposal of the Food and Drug Administration, to be removed from the list of optional ingredients which the baker might or might not use at his own discretion in bread, thereby, as we understand it, making it a Federal criminal offense for these bakers to continue thus improving the nutritional value of their bread, or for any other bakers to so improve their bread in the future.

We wrote you urging you or some competent representative of your department to appear at the annual convention of the soybean growers of America at Cedar Rapids, and explain the basis upon which any such discriminatory action was contemplated.

We received from you a reply dated August 23, 1943, indicating that you would not be able to appear and explain this action, and that the reason for the action was based on some legal technicalities involved in an interpretation of the evidence presented at public hearings.

We, as farmers, not being very familiar with legalistic technicalities, asked that a survey of this evidence be made by a competent attorney. We have been advised that this survey discloses much specific, technical, positive evidence in favor of the use of soy flour in small percentages, not only for its great nutritional contribution but for technical improvement and convenience to the baker, such as better fat emulsification, prevention of staling, color, better toasting qualities, etc.; while there appears to be no specific evidence whatever in the record indicating any reasons why it should not be used. We therefore arrive at the conclusion that this decision, while ostensibly made on the basis of the record, must actually have been made on information and reports from elsewhere that were not disclosed to the soybean industry or to the public in the hearing. We are naturally curious as to what these might be, and from whom they might come. We learned that it did not come from the baking trade, because the American Bakers Association appeared formally in favor of such a proposal.

We do not know much about technical, legal procedures, and we care less. We do know that it is generally and universally conceded that soy flour contributes more to the nutritional value of bread than any other product that can be added. We know that bread is a poor man's food, and that low purchasing power groups need to have their bread as effectively fortified for protein nutrition as may conform to the general usage of bread, and at a low cost.

We are informed that the present proposed action is vitally complicating the plans of bakers who have intended to improve the value of bread by adding soya protein. It would seem that the present action may do irreparable harm to the public, to the baking industry, and to the soybean growers. For that reason we would like to have some immediate clarification of this matter before such damage becomes irreparable.

We have noted that the proposal is connected with the terminology "promote honesty and fair dealing." Since this phrase seems to be of significance in this issue, we would like very much to have your open, frank, candid statement as to why you would consider such an action to represent either honesty or fair dealing, either toward the public or toward the soybean industry.

Since the plan proposed involves making it a Federal criminal offense for soy flour in small percentages to be used in bread, we would like to have, devoid of any legal technicality, a straight-forward statement as to why any baker should be fined or imprisoned by the United States for adding this particular nutritive quality to his bread. We would like it in terms that a farmer or an ordinary consumer could understand. If the bakers are criminals for using this product, perhaps we are criminals for producing the soybeans.

This latest move and other actions have the color of an attempt by other commercial interests to squeeze soya products from the food field.

Do you realize the full significance of your proposed action? Do you realize that the United States Department of Agriculture, in carrying forward the war food program, has induced corn belt and other farmers to expand soybean acreage tremendously? Do you realize that your proposed action is in direct conflict with what our government is trying to accomplish? Do you realize that dissension and disunity have been created through such diverse and conflicting policies of government boards and bureaus? In instructing me to address this letter to you, with copies to other Government officials and certain interested members of Congress, the Directors of our Association reported that no step in the history of the American soybean industry has so disturbed and embittered the growers across the corn belt. The sooner the issue can be closed, the better off all of us will be.

Very truly yours,

Geo. M. Strayer, Secretary
AMERICAN SOYBEAN ASSOCIATION.

SOYBEAN CROP REPORT

(Continued from page 30)

Michigan

S. T. Busey, Deerfield, for southeast: Ideal weather. Late planted soys now only 2 weeks behind. Indications Canadian strain of Mandarin out of danger of frost Sept. 15, new Earlyana by Sept. 20. Good crop expected. 80 percent of early varieties planted before May 20 will mature. Estimated per acre yield this district 30 bu. Total about same as 1942 depending on frost. Have heard of no one expecting to use for hay. Michigan State College Experimental plot of 16 varieties doing nicely. Farmers from adjoining counties come to see it.

New York

F. P. Bussell, Crops Department, Ithaca, for central west and north: Maturity probably 2 weeks later than normal. Cool nights in past 2 weeks have slowed development. Sept. 1 condition good. Size of crop will depend on having fairly warm dry September. Acreage probably 40 percent less than 1942. Many farmers intended to plant soys but could not because of late wet spring. Estimated yield 20 bu. per acre if frosts hold off long enough. Total yield not only 50-60 percent 1942. Very little for hay. Other hay plentiful.

Kansas

State Crop Report: Soybeans have made excellent growth, heavy set of pods. Most of crop planted early and will develop beans unless frost unusually early.

E. A. Cleavinger, extension director, Manhattan: Alfalfa hay selling for $22. Many farmers selling alfalfa and making hay of soybeans originally seeded for grain crop. Drought in southern counties also cutting prospective yield to where farmers making hay out of beans, perhaps as high as 30 percent. Relative maturity 95 to 100 percent. Sept. 1 condition 60 to 90 percent. Beans in southeast more advanced than northeast. Estimated yield 8 to 12 bu. per acre. Conditions may change very rapidly next 30 days.

Nebraska

Pete Marr, Fremont, for east central: Maturity a shade late because of weeds. Early rain made it impossible to do thorough weeding job. Expected yield average 18-20 bu. per acre, total about same as 1942. Lack moisture to date. 1 percent for hay.

North Dakota

B. E. Groom, Sec. Greater North Dakota Association, Fargo, for north: Hot weather continues with numerous showers. Corn, beans, etc., making phenomenal development. Feel sure we can expect better than average yield, 15-20 percent higher total than 1942. 25 percent for hay, smaller than 1942 due to other heavy feed crops.

William J. Leary, extension agronomist, Fargo: Sept. 1 condition very good but late. Crop 3 to 4 weeks to go with normal weather. Expected yield above normal, 12-18 bu. per acre. Prospects for total yield about same as 1942 as of Sept. 1. 40 percent for hay. Best section for beans too wet all season.

Alabama

H. R. Albrecht, Agronomy and Soils, Auburn: Maturity somewhat early in some sections due to extended droughts. Estimated yield probably 80-85 percent of normal, about 15 bu. per acre average. 85-90 percent for hay. Drought-induced shortages of other hay crops have forced many farmers to cut beans grown for oil originally for hay, especially in northern Alabama.

Connecticut

J. S. Owens, professor of agronomy, Storrs: Maturity normal. Percentage for hay and silage almost 100 percent.

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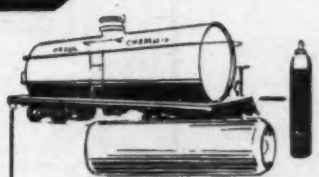

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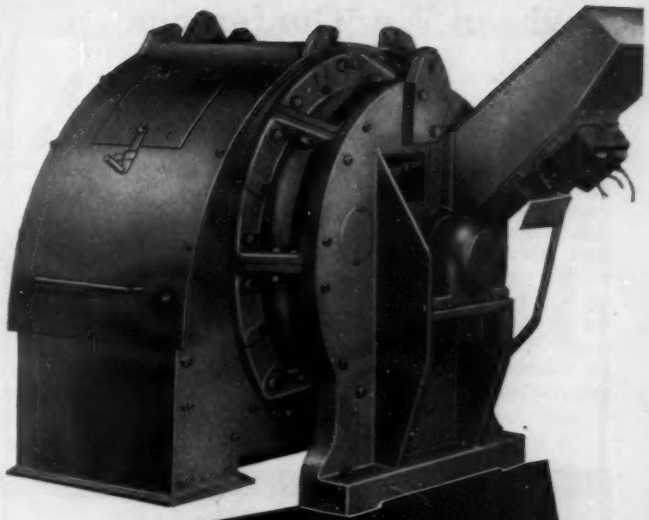

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1825 S. 55th Ave.
CHICAGO · ILLINOIS

Soybean War Conference

(Continued from page 7)

protein and many other valuable and essential nutritional constituents to this program.

Now, therefore, be it resolved by the American Soybean Association, an association of soybean growers, assembled in national annual convention at Cedar Rapids, Iowa, this 5th day of September 1943, that we direct our officers to request an opportunity to present adequate evidence regarding the merit of soybean flour when included as one of the ingredients of bread before the Food and Drug Administration of the Federal Security Agency.

(2)

The following action was taken at the Board of Directors meeting September 5, 1943 for presentation to the group now assembled:

Moved by David G. Wing, seconded by G. G. McIlroy that the American Soybean Association go on record as favoring the repeal of discriminating taxes on oleomargarine made from domestically produced fats an oils —

Be it further resolved that the Board of Directors be given authority to designate suitable witnesses to appear before any Congressional Committee on Agriculture in the interest of any bill relating itself to domestically produced fats and oils and affecting the market for soybean oil.

Whereas:

A survey of soybean diseases shows they are increasing in prevalence and are a distinct menace to production in many of our large bean producing areas

Therefore be it resolved:

That the American Soybean Association in convention assembled urgently request that more funds be made available for continued research in control of those diseases and insect hazards most seriously threatening the soybean industry.

—

(3)

Be it resolved:

That the Association express its deep appreciation to the following:

Retiring President, Dave Wing, for his outstanding services to the Association, and on behalf of all who are interested in soybeans.

George Strayer for his super-secretarial and editorial activities, his tireless efforts, his discretion and judgment, and likewise to his assistants.

To our hosts for the cordial and pleasant atmosphere of the 1943 meeting.

—

(4)

Whereas:

There being a difference in opinion among the various interests of our nation — growers, manufacturers and distributors of food items for the human family — regarding the place that soybeans should occupy in human nutrition.

Now therefore:

The American Soybean Association in national annual convention at Cedar Rapids on the 5th of September, 1943, defines its interest in soybeans for human food as the following:

1. Supplementing otherwise deficient human food supplies.
2. Enriching foods in vitamins, protein, and other nutritional values.
3. Fortifying foods needing such fortification.
4. Encouraging of vegetable soybeans as new sources of worthwhile foodstuffs.
5. Sources of foods to meet certain dietary problems or deficiencies.
6. Encouraging the use of soy foods wherever they show equal or superior food value to any established food product.

—

(5)

Whereas:

Certain federal agencies are engaged in the business of distributing feed, seeds and fertilizer in the various states of our Union and

Whereas:

It has come to the attention of the American Soybean Association that certain Federal and State seed laws are being violated by this distribution by Federal auspices.

Now therefore be it resolved:

That Federal legislation be enacted to force compliance with Federal and State feed and seed and fertilizer laws, such legislation similar to the bill introduced in the 77th Congress which was unanimously passed by both the House and Senate but failed to become a law by failure of the President to sign same.

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Engineers and manufacturers of mill equipment since 1884.

describing in detail the machines illustrated here.

The Duplex Mill and Mfg. Co.
Springfield, Ohio

MANUFACTURERS of feeders, crushers, grain cleaners, corn cutters and graders, chain drags, scalpers, electric motors, etc.

We salute members of the American Soybean Association who attended the annual convention in Cedar Rapids, Iowa, September 5, 6, 7.

CARGILL
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Miller's Soya Foods

MILLER'S INTERNATIONAL NUTRITION LABORATORY are among the largest growers of the Edible Soya bean, as also processors of high protein yielding foods from the Soya Bean. They possess both Eye and Flavor Appeal. Miller's Laboratory is a demonstration that Soya Beans are a delicious food for humans.

Miller's Soya Foods Include--

1. Canned liquid Soya Milk.
2. Spray dried Soya Milk Powder (natural, malted and chocolate flavors).
3. Superb canned Giant Green Soya Beans.
4. Delicious meat substitutes and extenders in appearance, and taste, like bologna, veal cutlets, etc.

Price and detailed information supplied to interested individuals, address,

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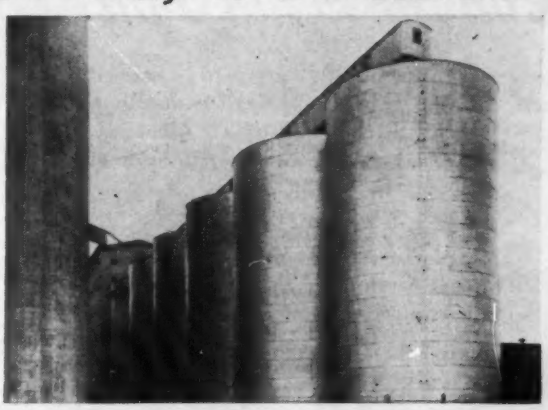

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Financing by means of Field Warehousing has been the accepted practice in the Soybean Industry for many years.

Wire, or Write, or 'Phone us today for full information and descriptive booklet.

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BONDED FIELD WAREHOUSEMAN

209 SOUTH LA SALLE STREET CHICAGO, ILLINOIS

The National Feed Shortage

(Continued from page 14)

extra finish on fat cattle during this wartime shortage of feed and grain, we are going to have to satisfy our taste with a little more good red beef.

The point I want to make here without going into too much detail is that good, thorough, sound and scientific research has been made on this problem and the recommendations that come out will be based on this sound information.

Food quotas for the coming year have not been released up to the present time, but it looks like they will endeavor to produce as much or a little more milk this coming year than last. I am confident they would like to see the egg production kept at about the same level as it was this year. On hogs they are going to recommend marketing them at the average weight of approximately 225 to 230 pounds, instead of the average this year of 255 pounds. Hogs farrowing for next year are to be cut back to about the same level of 1942, in other words, reducing back from 127 million hogs to approximately 104 or 105 million hogs. Poultry meat production will be about the same as this year. This will be done because of a heavier culling recommendation, as you will remember from the figures given you earlier in my talk that we have had a very large increase in our poultry population. Therefore, our chicken meat production will be heavier but they will cut back the production of broilers and meat birds from 10 to 20 percent. It looks like there will have to be a cut back on the hatching for next year — somewhere between five and 10 percent.

On beef cattle production, we would like to reduce the number of cattle between January 1, 1944 and January 1, 1945 approximately five percent and increase the cattle slaughter during this period from 15 to 20 percent, so that we will have a heavier kill of beef cattle during the year and decrease the number on the farm approximately five to six percent. That will mean more cattle in the feed lot, but not fed to a high finish. We will put less corn and proteins into these cattle than we have been doing in the past.

With this sort of schedule the U. S. Department of Agriculture is hoping that they might be able to get a proper distribution of all meals and feeds.

Total Protein

It is estimated that on October 1, 1943 converted into oil meal protein equivalent, that we will have approximately 11,600,000 tons of protein supplies against October 1, 1942 of 11,300,000 tons. This is your total high protein feed and does not include mill feed.

You will note by the above figures that we will only have approximately 300,000 more tons of total protein for the coming year with a much larger livestock population to feed than we had a year ago. Because of this the War Food Administration called a meeting of the feed industry at which they asked members of the Triple-A, War Boards from the different sections of the United States, representatives of the linseed, soybean, cottonseed and peanut meal crushers, as well as all members of the Feed Industry Council to be present. There were approximately 65 of us who sat down to discuss this problem of equitable distribution of all these commodities. It was primarily an oil meal hearing.

Here are the estimated production figures on the four oil meals. The estimated production on soybean oil meal for the coming year is 3,150,000 tons plus approximately 700,000 tons of soybean flour.

Cottonseed meal approximately 2 million tons; linseed meal 1,150,000 tons and peanut oil meal 225,000 tons, making roughly a total tonnage of the four oil meals available for the coming year of 6,400,000 tons, which is not over 5 percent larger than last year, with a much smaller carryover on practically all of them.

Proposals

It is hoped by the WFA that soybeans will be started south at harvest time so that we can utilize any additional capacity of the cottonseed crushers at an earlier date than we did a year ago, in order to build up some stockpiles in the southern states.

The main proposals by the WFA to the group attending the conference in Washington included:

1. Eliminating the use of cottonseed meal and soybean oil meal as a fertilizer.
2. Limiting processor sales to 60 days in advance.
3. Holding back 10 percent of all soybean oil meal crushers' capacity for distribution in emergency areas which will be allocated by the different war boards.
4. A definite priority to the producers of feeds and beans so they would be assured of getting the oil meal they would need to feed out their own particular livestock.

The crushers and feed industry both objected to the priority system, and this proposal was tabled for the time being. I believe that under the allocation of meal to

(Continued on page 38)

BATTLEFIELDS *on the home front*

BEHIND the victories of our fighting men abroad stand America's half-billion acres of farm lands at home.

An army of 6 million determined farmers work those acres.

And this is what they are doing.

They're feeding over 8 million men in our armed forces.

They're sending overseas 5 million dollars' worth of food a day on our lend-lease program.

They're providing food for the 35 million families busy at home.

We know, because by far the greater part of what they produce is carried by the railroads—part of the million-and-a-third tons of all kinds of freight hauled a mile every minute of the day and night.

Like the farmers, the railroads have lost many of their men to Uncle Sam. And they have to get along with little or no new equipment.

But, also like the farmers, they are determined to do their level best to meet all the demands made upon them — to back up to the limit the men who fight for our free American way of self-reliance, enterprise and initiative.

ASSOCIATION OF AMERICAN RAILROADS

ALL UNITED FOR VICTORY

Do You Process Soybeans?

HERE'S EQUIPMENT YOU'LL NEED

Successful processing of soybeans requires careful grading. Equipment shown here is necessary for profit-making short-cuts. Order from Seedburo now while stocks are still available.

STEINLITE MOISTURE TESTER

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ACCURATE — EASY TO USE

Know what you buy . . . test your beans for moisture. Know your meal meets moisture standards. The Steinlite tests either whole or processed beans for moisture accurately. The fastest, simplest moisture tester built. Every machine checked against Government standards. Easy to operate as a radio. Upkeep is negligible. The lowest cost moisture testing method we know about. Compact, small, portable. Over 3800 users . . . widely used by soybean processors.

110 V, 60 cycle AC, f.o.b. Atchison, Kans.—$275.00

You will know the true value of the beans you buy if you take several samples from car or truck lots with this 11-section, 63" Grain Probe; mix the samples with the efficient Boerner Modified Multiple Divider; cull and grade beans with the Soybean Dockage Sieves; and test for moisture with the Steinlite. Only with the aid of this equipment can you be sure you get what you pay for when you buy beans. Seedburo has been "Headquarters" for this equipment since 1912. State and Federal Grain Inspection offices, and cotton and soybean oil mills are prominent amongst Seedburo's thousands of users.

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SOYBEAN DOCKAGE SIEVES

GRAIN PROBES . . . 63" Government Special; double brass tube; extra heavy bronze points ..... **$17.00 each**

BOERNER MODIFIED MULTIPLE DIVIDER . . . A durable, thorough, 4-section mixer built to withstand wear and abrasion. Openings for 16 streams of grain in each of 3 bottom sections ..... **Complete $52.50**

SOYBEAN DOCKAGE SIEVES . . . A set gives three gradings of each sample. Federal Grain Supervisors use Seedburo Precision type Sieves . . . Set of 2 Sieves and Bottom Pan — Precision Type **$9.25**
Commercial Type **$6.75**

4-IN-1 DOCKAGE SCALE . . . This is the original four-purpose scale. Graduations in four measurements; grams, ounces, pounds, and dockage percentage. For making dockage tests and also weight per bushel tests. Complete with guaranteed accurate pint measure **$30.00**

4-IN-1 SCALE

"HEADQUARTERS" for broad line of official grain grading equipment since 1912

SEEDBURO EQUIPMENT COMPANY

629 BROOKS BLDG. CHICAGO, ILLINOIS

The National Feed Shortage

(Continued from page 36)

feeders there would develop one of the greatest black markets we have had. But if we do not do a good job of distribution, the priority system will still go into effect in some form. It is not discarded. It is merely being held off until a later date, to be brought out whenever the voluntary system breaks down. Soybean growers may refuse to sell beans without getting some form of preference on meal. If they do, priorities may be necessary. There have been a lot of inquiries coming to the colleges on how to feed straight beans. This indicates that if the producers feel there is a possibility that they cannot get oil meal for feed, that they will not sell beans but will feed them out. This must not be allowed to happen, for the country needs the oil from these beans.

I came back from Washington believing that Washington does not want a rationing program. I am confident that they don't want the job. They want you men here in this room to do it. This is a problem that we've got to solve ourselves or we'll have it solved for us.

If selfish, personal and company gains are placed before the interests of the nation, we may find soybean processors being severely criticised by both the farmers and the small feed mixers. If feed companies are allowed to buy up processing facilities, and shut off supplies of oilseed meals, the resentment against them will increase greatly. After all, the steel which is allocated to build new soybean processing plants belongs to all of us — to you, to me, and to the girl waiting on this table tonight. We each have a stake in that metal as an implement of war. If personal gain is allowed to overshadow the interests of the nation we will immediately have feed priorities.

The problem is yours, as an industry. What are you going to do with it?

Let me say right here that I think the feed industry has done a marvelous job under the voluntary protein program. This program is essential and must go on. It looked like an impossible job last January, but it worked. There are thousands upon thousands of pigs and poultry now in the feed lots that would not be there without this program. I hope that we will be given enough time to work out the new program on a voluntary basis and to show that we can make it work.

If we believe in a democracy and the capitalistic system let us forget personal selfishness, let us forget sectionalism, let us prove again we are democratic enough to make these adjustments voluntarily and keep from forcing forms of allocations and bureaucratic controls on ourselves.

—s b d—

Compare Results *at* Harvest Time

If you did not inoculate your own soybean seed with LEGUME-AID at planting time, find a field that was so treated this year. Wait until the harvest is in and then ask the owner what results he obtained as compared with neighboring fields that were not LEGUME-AID inoculated. We will be very much surprised if he does not tell you that the few cents per acre invested in LEGUME-AID were repaid him many times over in the form of additional bushels harvested.

LEGUME-AID

Extra bushels of soybeans or extra tonnage of hay are only the first-year results of LEGUME-AID inoculation. There still remains a second-year bonus of increased soil fertility to be collected by the next crop from the surplus nitrogen contained in the root nodules that were induced by the LEGUME-AID bacteria. Be sure to inoculate with LEGUME-AID every time you plant soybeans. This high potency culture of selected, nitrogen-fixing, bacterial strains comes in the famous carton package that brings you both extra convenience and extra economy in use. Before next spring, ask your seed dealer about LEGUME-AID Inoculant. Or write direct for free descriptive literature.

AGRI-LAB-INC

AGRICULTURAL LABORATORIES, Inc.
1194 Chesapeake Ave. Columbus, Ohio

The INOCULANT in the CARTON

GRADE STANDARDS

(Continued from page 11)

trade to adjust buying operations accordingly.

2. The second suggestion provided that below grade 4 the only discounts be: (a) 1c for each ½ percent increase in moisture and (b) 1c for each percent in foreign material over 5%. This would eliminate discounts within sample grade on test weight, damage and splits.

3. Furthermore, since the grade standards for oil bearing seeds, notably flax, permit of large amounts of damage within the various grades and since the frost damaged beans presented no particular problems to processors, resulted in relatively small costs for refining and turned out high proportions of both oil and meal, it was strongly urged that the 1943 soybean contracts permit a wide tolerance for frost damage within the lower grades.

These recommendations did not disturb the damage factor but permitted a wide tolerance in green interior color in grades 3 and 4, and at the same time provided for high quality grades No. 1 and No. 2 beans for manufacture of human foods.

Those who worked at this problem were encouraged when they learned that Washington officials gave serious study to the facts presented. Their efforts bore larger fruit when on July 27, at Chicago, Commodity Credit officials named a small committee to draw up recommendations on grades to be applied to the 1943 bean harvest. The recommendations were adopted without a dissenting vote and were as follows:

Green Damage:
8.1% to 15%—1 cent discount
15.1% to 20%—1 cent additional
20.1% to 25%—1 cent additional
25.1% to 30%—1 cent additional

Field Damage: ½c discount for each 1% damage from 8% to 25%; 1c discount for each 1% damage from 25% to 60% and 1½c discount for each 1% damage above 60%. These recommendations are contained in the new soybean buying plan recently announced.

Producers will be grateful to Commodity Credit Corporation officials and to officials of the Food Marketing Administration for the forward steps taken in formulating a 1943 marketing plan.

4 Mills Strategically Located to Give You Prompt, Reliable Service on Soybean Oilmeal

"Old Process"

EXPELLER TOASTED

SOYBEAN OILMEAL

with the Original Nut-Like Flavor

These Brands Are Top Quality Because of:

RICH FLAVOR • GOLDEN COLOR • UNIFORM GRIND

"TRIPLE VALUE" BRAND
Galesburg Soy Products Co., Galesburg, Ill.

"PURITY BRAND"
Quincy Soybean Products Co. Quincy, Ill.

"ILLINI BRAND"
Decatur Soy Products Co. Decatur, Ill.

"SINCO BRAND"
Illinois Soy Products Co. Springfield, Ill.

You Are in the Oil Business

(Continued from page 16)

ment which normally returns from the bean to the roots as the soybean ripens, remains in the seed. The soy oil made from these frost damaged or drought arrested seeds is bright green in color and causes great trouble and expense to the refiner.

This type of damage is not caused by nature alone. Have we not overlooked in our search for high yielding varieties that time of maturity is also an important factor? Can we not in the northern areas select or develop varieties which have a shorter maturing time so that we have a greater factor of safety?

The second common problem is caused by hard, early freezes coupled with the shortage of men, which prevents a normal harvest and results in many beans remaining in the field for part or all of the winter. This causes a different kind of impairment to both the oil and the oil meal. The oil from winter damaged beans has a fixed red color which requires all of the ingenuity of the oil chemist to remove. The value of the meal from these water-soaked wintered beans is also seriously impaired.

Sand Damage

Sand and grit are associated with these winter damaged beans. The winter rains beat sand into the beans so that it resists the normal seed cleaning methods of the elevator and oil mill. About three quarters of all beans are crushed in expellers in which the beans are compressed in slotted steel cylinders under pressure of many tons per square inch. Under these tremendous pressures, it takes only a trace of sand or grit to quickly grind out the presses so that in some cases repairs are necessary in 30 or 60 days, where formerly a years' operation on prime beans was possible.

The third type of damage is caused by improper storage either on the farm, in the country elevator, or in the crusher's storage bins. Beans which have a high moisture content will heat when stored in a tightly closed bin. Some crushers artificially dry their wet beans before storing them. Others keep turning them from one bin to another to keep them cool and to help them to dry out naturally. Either method costs money for labor and moisture loss. If the beans become hot, the oil and meal are injured in a very similar way to the winter damaged beans.

Losses

It should be kept in mind that damaged beans cause four different kinds of losses.

First, there is the discount which must be paid to the refiner because of the inferior quality of the oil. This discount includes a refund for higher than normal refining loss, a refund for excessive green color in the crude oil, or a refund for excessive red color in the refined and bleached oil. Second, there is a loss because of lower oil yield, after allowance for greater meal yield as compared with sound beans. Third, there is a lower feeding value in the oil meal. Fourth, there are higher crushing costs which include increased repairs, greater power consumption, increased labor cost, reduced plant capacity and greater milling loss.

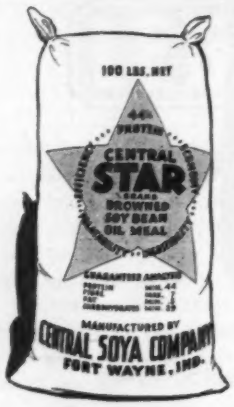
The Commodity Credit Corporation, aware of the complexity of this problem, appointed a special committee to study these factors and establish fair discounts for sample grade soybeans. CCC invited a leading extension agronomist, a man who has been a pioneer in advocating the planting of soybeans, a man who has been a major cause of Illinois planting nearly twice as many acres in soybeans as any other state, to be chairman of this committee. Other committee members include a prominent grower and editor, a representative elevator operator, a member of the Illinois State AAA Committee, and a well known processor. These five men, all experienced in the soybean field, all highly respected in their communities, were chosen to establish fair standards for sample grade soybeans for the coming year.

The establishment of fair trading rules and fair trading standards is the lubricant which makes the wheels of an industry operate smoothly. But it will take more than rules and standards and discounts to make a great industry win competitive battles in the years of transition ahead. Due to the war, our products have expanded in volume and favor. Due to the impact of the emergency, our products have been admitted to many new uses and processes. It will be through quality and merit, alone, that our products will retain the gains that have been thrust upon us.

For Post War

Let us right now start our post war planning so that we can retain our supremacy when the war is won. Let us not base our foundation for the future on the shifting sands of rules, tests, standards, and discounts. Let us anchor our foundation to the rocks of quality and merit.

Mr. Soybean Grower, you are in the oil business now, and quality soy oil, quality shortening, quality margarine, quality salad oil, quality soy flour, and quality feed for livestock and poultry begins in the south, 50-acre field of yours.



CENTRAL
STAR BRAND
44%
SOYBEAN
OIL MEAL

MORE . . . . More soybeans — more eggs, more milk, more meat! Soybean oil meal, and soybean oil are now a matter of defense production and we must work accordingly. A big job ahead for the grower and feeder, for the elevator, processor, feed manufacturer — a vital job that must be done well.

Soybeans hold a double value for the grower-feeder — a good cash crop, and a major source of protein for feeds.

Growers and feeders in the areas served by our plants will find us prepared — to handle their increased acreage of beans, and to furnish them with properly balanced feeds for increasing growth and production in livestock and poultry.

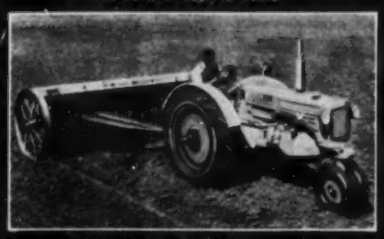
CENTRAL
BRAND
41%
SOYBEAN
OIL MEAL

A Basic Source of Vegetable Protein in Master Mix Feeds and Concentrates

CENTRAL SOYA CO., INC., and McMILLEN FEED MILLS

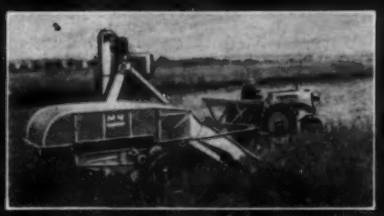
MILLS: DECATUR, IND., and GIBSON CITY, ILL. GENERAL OFFICES, FORT WAYNE, IND.

Plowing wheat land with an MM WHEATLAND for more war crops to come.



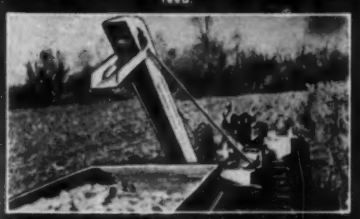
Sowing the seed for next year's harvest in the winter wheat territory.

Fertilizing the land for next year's Food for Freedom.



Harvesting a crop that is essential to the prosecution of the war.

Husking two rows at a time for essential food and feed.



Above, one row MM Husker saving many man hours.
Below, MM sheller getting the corn ready for food and for war industries.

FOR "FREEDOM FROM WANT"

WHEN there is *no* **FREEDOM FROM WANT**, all history tells us that "Freedom of Speech", "Freedom of Worship" and "Freedom from Fear" do not long endure. This is why the *Food for Freedom* program in our country is so vital to victory.

Our dealers and farmers have a real job on their hands, a job such as no agricultural people have ever been asked to do, but we are better equipped to do this job than any people in all history.

The war has limited the quantity of farm machinery available, so it is important that all farmers keep their machines in good repair, and this most of them are doing to the utmost of their ability.

It must be remembered that it was, and is our farmers' *willingness* to adopt new methods and new machines, *and* the new methods and new machines themselves that have put our country in the favorable position in the world that it now occupies when it comes to giving real **FREEDOM FROM WANT.** It will take more farm machinery this coming year to keep us in this enviable position.

There is another essential job that our dealers and farmers now must do and that is to ***"Harvest the scrap needed for the big scrap"***. Now is the time to glean every corner for every piece of steel, iron, copper, brass and other metal that is no longer absolutely needed to produce the Food for Freedom. This scrap is needed to produce essential war materials and also help produce a larger quantity of new farm machines needed for the coming year.

Keep investing every possible dollar in War Bonds.

Minneapolis-Moline is manufacturing all the farm machinery and tractors allowed under Government Limitation Orders for which materials can be obtained, and many quality products for our Armed Forces so that Victory will be ours sooner.

ARMY E NAVY
COMO PLANT

Minneapolis-Moline is one of the very few to have been awarded both the Maritime "M" pennant by the U. S. Maritime Commission and the Army-Navy "E" Pennant by the Army and Navy — both for High Quality and High Production achievements.

M
TRACTOR PLANT

MINNEAPOLIS-MOLINE POWER IMPLEMENT COMPANY, MINNEAPOLIS, MINN., U. S. A.

INDISPENSABLE TO SEEDSMEN

Seed Trade News

Of vital interest to growers, wholesale and retail dealers. Only weekly newspaper for the industry. **Up-to-minute production, merchandising and trade news.** Subscription — $2.00 per year. Sample copy on request. Service — free and friendly.

109 No. Dearborn St., Chicago, Ill.

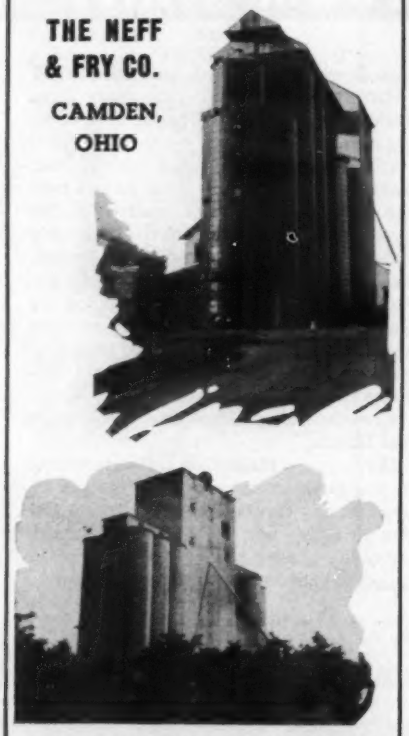
After the War

When victory comes, Neff & Fry will again be able to serve all the regular markets as in time past. Today, however, our entire production is going to high priority customers.

If you can furnish such a high priority, we invite you to consider the advantages of Neff & Fry bins — sturdiness, cleanliness, and convenience. Stave or monolithic concrete construction. New 1943 catalog just off the press.

THE NEFF & FRY CO.

CAMDEN, OHIO



NEFF & FRY STORAGE BINS

Northern Regional Laboratory

(Continued from page 13)

group on previous occasions, but it has many other uses, such as separating monomers from polymers, highly saturated fatty acid derivatives from less saturated ones, and so forth.

A great deal of progress has been made during the past year in the preparation of a higher quality industrial protein, particularly one that is clean and has a light color. A most encouraging development in this field has been the discovery of a process for extracting oil from the beans under conditions which result in a much whiter protein than is obtainable by present extraction methods. It promises to open new fields in the utilization of soybean protein in paper coatings, synthetic fibers, and similar products.

Soy Flour

Recent changes in our food program have focused attention upon soy flour and soy grits as a source of protein in our own diets, as well as for our allies. Until the present fiscal year, work on soy flour and other soybean food products was conducted in the Agricultural Chemical Research Division of the Bureau of Agricultural and Industrial Chemistry in Washington. Following a decentralization of the Washington work of that Bureau, soy flour and other soybean food products are now receiving attention in the Northern Regional Research Laboratory's research program.

At present, the Laboratory's work on soy flour is devoted to the production of a more efficiently debittered grade of flour by application of the previously described extraction process. Preliminary experiments have been quite successful.

The Laboratory at Peoria has recently acted as consultant to other government agencies in a number of matters pertaining to the soybean program. For example, a survey was made to determine, in some typical soybean mills, what might be accomplished in the way of capacity increase by instituting the so-called expeller speed-up and what the critical materials requirements would be.

Many wartime problems studied at Peoria are of an emergency or trouble-shooting nature. In the case of soybeans, the past twelve months have been a banner year for this kind of work. This group is much too familiar with the heart-breaking results of last year's weather, labor scarcity, and harvesting machinery shortage to require any recounting of the chaotic situation resulting when floods of damaged soybeans reached the market. No such problems had been contemplated when the various trading rules used in the industry were adopted. It was known, in general, that the oil from damaged soybeans is inferior in quality and that it costs the processor more to crush such beans than it does good ones, but no one seemed to know how much.

Obviously, discounts and premiums assessed in the trade should conform to the monetary value of the product. For example, if an oil refiner must accept inferior oil in place of good oil, he should be allowed to discount it in accordance with both the added expense he must incur in refining it and the lower price he must accept for his finished product if it cannot be sold at the same price as oil from sound beans. No one will dispute his right to pass a fair discount or penalty back to the soybean processor who, incidentally, incurs additional loss because of the increased wear and tear on his plant, the lower yields of oil, the reduction in his mill capacity, and other factors. The processor should be entitled, in turn, to pass certain penalties, such as these higher operating costs and the discount assessed against his oil, back to the producer of the damaged soybeans. The incentive offered the grower to harvest sound soybeans instead of damaged ones should obviously be what it is worth to the processor to purchase a sound product in preference to damaged soybeans. No one will argue this point, but the question is: "Exactly what are these added values or costs that accrue to the crusher and refiner?

The Laboratory at Peoria is not concerned with the fixing of discount rates on soybeans or on the oil and meal. This is entirely a function of other agencies. The Laboratory is equipped, however, to assist in scientifically evaluating many of the factors that must be considered in determining fair discounts. One of these required investigation when it was decided that, as a result of last year's experience, a discount for refining loss must be made a part of the oil trading rules. Soybean oil had never previously been traded on a refining loss basis, and hardly anyone had ever bothered to make the test. In fact, the analytical method on the books was based largely upon that used for cottonseed oil, and those who had used it found it unsatisfactory when applied to many of the soybean oils on the market.

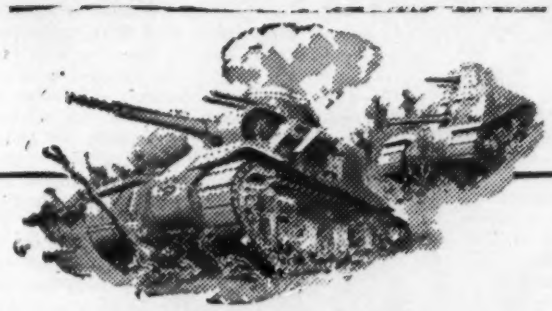
Refining Loss

Fortunately, work on this problem, sponsored by the American Oil Chemists' Society, had been under way for some time at Urbana and had been continued at Peoria following the Soybean Laboratory's transfer. These studies had led to the development of a method for determining refining loss in a centrifuge cup instead of in the conventional refining loss cup, and the new procedure was found to give satisfactory results in all cases where the official method had failed. As a result of this work, the centrifuge method has been adopted as an alternate procedure on solvent extracted oils for the coming year and will assist materially in minimizing the difficulties incident to introducing refining loss settlements into the trading rules.

Still another change was necessitated by the damaged bean episode, namely, the levying of penalties on soybean oil in accordance with its color after refining and bleaching. In this case, too, the analytical method was based upon practices of the cottonseed industry, and the Lovibond color matching system was found unsatisfactory when applied to many soybean oils. For the time being, the present method must suffice, but the Northern Regional Research Laboratory is making progress in the development of a convenient and otherwise much more satisfactory method for measuring both hue and brilliance of soybean oils.

Oil Quality

The Laboratory also conducted tests in one of the large soybean processing plants to determine, quantitatively, the effect of soybean damage upon oil quality and upon other factors contributing to soybean discounts. In this case, the data were obtained for and at the request of Commodity Credit Corporation, but the information has not been published because of the limited nature of the experiments.



WEAPONS OF VICTORY

BEHIND our Europe-borne tanks that boom out death to the Axis invader will go millions of pounds of soy foods to spell life and liberation to starving people. Three-fourths of a billion pounds of these life-giving foods are being set aside for stricken Europe.

Just as imperative are the demands of our livestock feeders for protein supplements. They, too, are producing for victory. HOOSIER MILLS are operating all-out in order that the needs of victory, both abroad and at home may be met.

HOOSIER SOYBEAN MILLS, Inc.

Marion, Ind.

Sole Manufacturers
Patented

NU-SĒME
BURLAP AND COTTON BAGS

The best substitute for new bags.

Also good quality second-hand bags.

ALWAYS
a good source of supply for bags.

During the war and After the war

QUALITY AND SERVICE

WESTERN BURLAP BAG CO., Inc.

1109-21 West 38th St. **CHICAGO, ILL.**

HATS OFF *America*

TO THE GROWERS OF SOYBEANS

KELLOGG'S THE TEST TELLS 1894

Spencer Kellogg joins in well earned tribute to your part in winning the war.

SPENCER KELLOGG
AND SONS, INC.

Buffalo, N. Y.
Chicago, Ill. Decatur, Ill.
Des Moines, Iowa

Soybeans and the Orient

(Continued from page 18)

ticularly marked by their small physical development, and are quite a contrast to the Chinese people living in the soya producing areas, where the people for generations have had an adequate protein dietary. The average weight per individual of men and women living in northern China, where soybeans are eaten in sufficient amount, will be practically a third more than that of the inhabitants of certain races of the South Sea Islands, or Chinese in the southern tropical areas. There is a marked difference in stature also.

On other occasions like this I have stressed the fact that the time will soon be here when we will come to regard the protein entity of the soybean as its greatest contribution to humanity. Even though these Oriental races have been using the soybean as a leading protein supplier of their dietary, when we view the needs nutritionally of the entire Asiatic races we find a lack of protein. They are getting oils and carbohydrates in sufficient amount, but these are only fuel foods and transitory. Protein is our chief nutritional requirement. It surpasses vitamins or minerals in importance. We make our growth out of protein. We maintain our stature on protein. We build up all our digestive secretions from protein. We supply all of our body regulators such as thyroid secretion, the petuitary secretion, and the adrenalin secretion from protein. Our nutritent body fluids such as our blood and lymph are chiefly protein liquids. Our body defenders which ward off the inroads of bacteria and disease, and which destroy contagion and enable us to recover from disease are all from protein. Therefore in common terms, our ability to work, to resist fatigue; in fact to live, is closely tied up with adequate protein supply.

When we were in Dearborn three years ago we were shown wool being made from the soybean. Yes, we grow our hair from protein, the sheep grows his wool from protein. It is just a question of whether we synthetically do it by laboratory methods or whether we pass it through the animal laboratory, and get it in that way. The great difference is that there is a tremendous economic loss in utilizing an animal to produce our important protein requirements. For example an animal stores in its fixed tissues through growth only 1/12 of what it eats, and will throw down into secretions like milk, only 1/8 of the food value it eats. The Oriental populations are so enormous that they can't survive if they feed their valuable foodstuffs to the animals and endeavor to recover their food need from these animals. They are vegetarians from necessity and not from choice. Without huge importations the Orient must reserve the products the soil yields for humans and not for animals.

There is no greater yielder of protein than the soybean.

But will the people learn to like it? Such splendid beverages, such tasty foods are now available, and so readily could they be made available on large scale production, that all except the extreme fastidious few can be made amply satisfied in getting their protein, the direct source of all protein, namely vegetation, king of which is the SOYA BEAN.

—s b d—

YOU CAN HELP
STRETCH
PROTEIN-RICH FEEDS

The country's soybean oil meal supply is limited. Yet, because of its high protein content, soybean oil meal is more valuable and in greater demand than ever.

Tell your customers, therefore, how to make soybean oil meal go as far as possible. Doing so, you can help yourself and your country.

Here are a few suggestions. Feed cows according to actual need; don't waste protein by feeding production rations to dry stock and bulls. Put pigs on a good pasture, restrict soybean oil meal in their fattening rations—after they have reached 75 to 100 pounds. Feed sows when they need proteins the most—during gestation and lactation.

There are countless suggestions on how to conserve protein-rich feeds in a new bulletin released by the U. S. Department of Agriculture. Write for your copy of the "Government-Industry Protein Conservation Program." It can be most helpful.

And may we thank you for your cooperation in these times. Because of wartime conditions, we cannot supply you with all the Swift's Oil Meal you want. You have been most understanding. We will, however, continue to make every effort to distribute the available supply fairly.

GUARANTEED
Old Process
43% Protein

Swift
& Company

MILLS AT
Champaign, Illinois Cairo, Illinois
Des Moines, Iowa Fostoria, Ohio

1943 SOYBEAN MEAL PROGRAM

(Continued from page 12)

pending on location. Peanut meal 45% protein — $50 per ton bulk at plant.

Among the problems which may need solution is that of encouraging the largest possible volume of oilseeds to move into commercial channels for crushing. Not only will this result in a larger supply of meal, but we save the oil which is lost when oilseeds are fed on the farm. This oil is vitally needed in the war effort.

The principal reason for any failure of oilseeds to be sold by farmers would be concern lest they were unable to purchase reasonable amounts of protein meal. At last week's meeting in Washington considerable time was spent in discussing this problem. One specific proposal involved a procedure for giving oilseed producers first call on available meal supplies.

The proposal was tabled because many of those present felt that it might tie up disproportionate amounts of the available supply, particularly in the early part of the season.

If we can develop sufficiently satisfactory plans for obtaining equitable distribution of all our available protein meal, the problem of getting farmers to sell their oilseeds should substantially disappear.

Whatever plans are worked out will be through general regulation and limitations to:

(1) Keep available supplies moving.

(2) Assure states or areas their proportionate share of available supplies.

(3) Invite maximum participation by the people most experienced in the handling of these commodities from the processor on the processor level, down to local dealers and mixers at the community level.

Any participation by WFA in a share of supplies will be done through State War Boards, assisted by advisory committees of the feed industry.

JAY BEE GRINDERS

JAY BEE, Model W Direct Connected, 60 to 200 H.P.

Meet the Call for Extra Production

When hammermill grinding is required, Jay Bee Grinders hold the limelight.

Wartime demands the strongest, fastest, toughest, most efficient machinery ever known. Nearly a quarter of a century's experience in mill making has produced the practically unbreakable Jay Bee . . . the mill that is noted for Big Capacity, Speed, Endurance . . . the mill that can take punishment and stay on the job.

In feed plants, you'll find more Jay Bee's than any other make of mill. Jay Bee Mills, bought nearly a quarter of a century ago, embodying the present design, are still in service.

Example of lasting satisfaction: A Jay Bee Model W grinder, 100 H.P., was installed in a Missouri feed mill over 14 years ago. That Model W is still in use . . . and SEVEN MORE Model W grinders, 100 H.P., have been added to this mill equipment since the first one was delivered!

Jay Bee Stationary Grinders are furnished with belt, V-belt or direct connection, from 15 to 200 H.P., for every type of milling.

Whatever your grinding needs . . . write to any of the addresses below for details about Jay Bee grinding equipment.

JAY BEE GRINDERS are manufactured by The Bossert Co., Inc., Utica, N. Y., holders of the Army - Navy "E" award for Production efficiency.

JAY BEE MILLS are used all over the world . . . for every type of grinding or pulverizing

UTICA, NEW YORK **J. B. SEDBERRY, INC.** **FRANKLIN, TENN.**

JOHN J. WOODS & SONS, JAY BEE SALES COMPANY, KANSAS CITY, MISSOURI

A. E. Thompson Co., 718 Washington Ave. N., Minneapolis, Minn.; Jay Bee Sales Co., 395 Broadway, New York; Jackson, Tenn.; S. W. Taliaferro, 4619 S. 7th Ave., Louisville, Ky.; W. Harold Grubbs, Winston Salem, N. C.; T. G. Holland, 474 Fairfax Road, Drexel Hill, Pa.; Jay Bee of Texas, 705 Ross Ave., Dallas, Tex.; The Lamiell Co., Greenwich, Ohio; O. D. Padgett, Sandersville, Ga.; J. R. Sorrells, Box 68, Clanton, Ala.; J. E. Sorrells, Slocomb, Ala.

Commodity's Marketing Program

(Continued from page 9)

Sample Grade soybeans, the values of which will be computed by applying the discounts listed in the 1943 discount schedule to the price for No. 4 soybeans containing 18 percent moisture, will also command premiums for moisture content below 18 percent, which premiums will be determined by adding 2 cents per bushel for each full 1 percent of moisture to the basic price.

Here is the 1943 Soybean discount schedule to be applied to Sample Grade beans:

(a) Test Weight

½ cent per bushel for each pound or fraction thereof under 49 pounds.

(b) Moisture

1½ cents per bushel for each full ½% of moisture in excess of 18%.

(c) Splits

¼ cent per bushel for each full 5% in excess of 30%.

(d) Damage—other than green damage

*⅛ cent per bushel for each 1% or fraction thereof in excess of 8%, up to 25%. 1 cent per bushel for each 1% or fraction thereof in excess of 25% up to 60%. 1½ cent per bushel for each 1% or fraction thereof in excess of 60%.

(e) Green Damage

*1 cent per bushel for green damage in excess of 8% total damage up to 15%. An additional 1 cent for each 5% or fraction thereof in excess of 15%.

(f) Foreign material other than Dockage

Weight of foreign material in excess of 5%, rounded to nearest 1 percent, shall be deducted from total weight of soybeans delivered.

*Drop fraction of ½% or less.

(g) Dockage

The net number of bushels shall be determined on the basis of 60 pounds of soybeans, free of dockage, and free of foreign material in excess of 5%.

*When soybeans contain total damage in excess of 8%, the first 8% of total damage shall be considered to be damage other than green damage.

Soybeans grading weevily, or which are musty, sour, heating, or have any commercially objectionable foreign odor, are not eligible for purchase, provided however that soybeans which grade Sample because of having an odor due solely to "green bean" damage or of being sour due solely to such damage shall be eligible for purchase.

Judging from production experience extending over more than 30 years, it appears improbable that 1943 crop soybeans will carry any considerable amount of the so-called "green bean" damage. It does not often happen that even the late planted soybeans that fail to mature before frost are frozen "green," and judging from past experience, it is just as likely, or more so, that there will be some 1943 crop soybeans that are "green" because of excessive drying of the immature plants in the fields, as happened to a portion of our Illinois crop three or four years ago.

In this connection, it may be pertinent to observe that the carryover from the 1942 or earlier crops will not be eligible for 1943 soybean support prices. Also, that there is an Office of Price Administration ceiling price on 1942 crop beans, and further that a considerable portion of that crop can probably be identified with certainty because of its "green" bean content.

* * * * *

Commodity Credit Corporation will again offer loans to eligible producers who store their 1943 soybeans, containing 14 percent or less moisture and otherwise grading No. 4 or better, on their farms in all of the states except Alabama, Arkansas, Florida, Georgia, Louisiana, Mississippi, Oklahoma, South Carolina, Texas, and New England.

The announced loan rates are based on support prices, with a 1 cent per bushel service charge. Loans will be available through January 31, 1944, and will mature on demand but not later than April 30, 1944.

The maximum storage allowance of 7 cents per bushel will be allowed where soybeans are carried in store through April 30, 1944, or in case of delivery in payment of the loan at the demand of Commodity Credit Corporation, provided such demand for payment was not due to any fraudulent representation on the part of the producer, or because the soybeans were damaged, threatened with damage, abandoned, or otherwise impaired in the farm storage.

Starting this year at harvest time it is planned that the surplus soybeans from the bean belt will be moved by Commodity Credit Corporation to the most advantageously located available processing capacity in mills located in the outside areas — the South, the West, and the East.

The substantially higher oilseed meal prices already established under the Office of Price Administration's ceiling price orders of August 1, 1943, which prices are in line with the provisions of previously offered and contemplated Commodity Credit Corporation 1943 oilseed processor contracts, should materially aid in solving the protein supplement feed shortage that lies ahead.

Pillsbury's BEST XXXX FEEDS

Now...

this famous old trademark has a new meaning to soybean growers . . .

— a new soybean processing plant, now under construction at Clinton, Iowa

★ Will provide another sorely needed outlet for your soybeans, requiring about 400 acres of soybeans per day when ready for production.

★ Will produce approximately 200 tons of toasted, new process soybean oil meal, and 50 tons of soybean oil, per day.

★ Will create another source of needed proteins for the steadily increasing volume of Pillsbury's BEST Feeds.

FEEDERS: See your Pillsbury's BEST dealer about the Pillsbury Feeding Program for all livestock and poultry. Users report very gratifying results.

Pillsbury Feed Mills

DIVISION

Pillsbury Flour Mills Company

Headquarters — Clinton, Iowa • Feed Mills at Clinton, Atchison, Minneapolis, Los Angeles, San Francisco, Sacramento, Ogden, Colton

Check the Yields

....of

Inoculated Beans

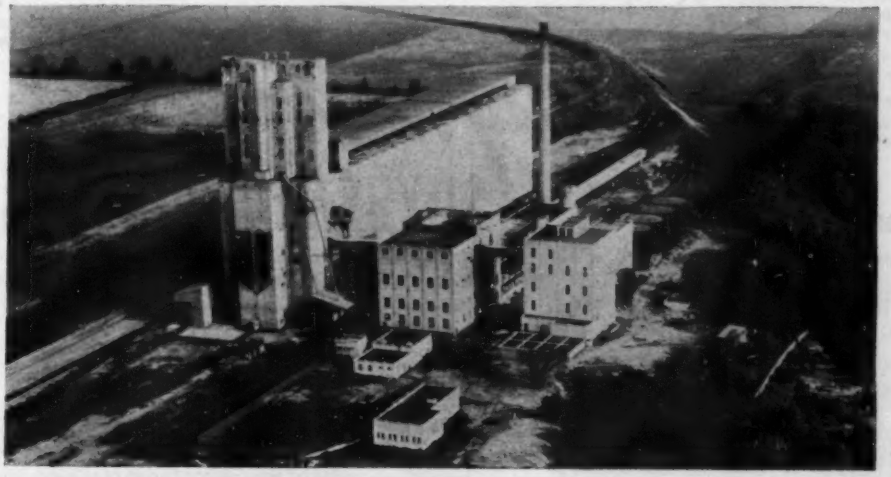
Soybean harvest is near . . . . a good time to check the yields of soybeans inoculated with Nod-O-Gen. If you did not use Nod-O-Gen, no doubt a neighbor did . . . . or perhaps your County agent made a test.

It's reasonably certain you'll find profitable increase in yield . . . . because Nod-O-Gen has a great record not only of boosting yields . . . . but also enriching feed and building up the soil.

NOD-O-GEN made the difference. The larger bundle was inoculated with NOD-O-GEN; the smaller one was not.

Farm Laboratory Division THE ALBERT DICKINSON COMPANY, Chicago, Est. 1854

NOD-O-GEN The Pre-Tested Inoculator
The Crop and Profit "Pepper Upper"



A. D. M. Soybean Processing Plant . . Located at Decatur, Illinois.

WHAT IS GOOD-WILL?

Good-Will is the disposition of a satisfied customer to return to the place where he has been well treated.

The Archer and Daniels families have been engaged in the Oil Milling business for a century (1840-1940), and the good-will which has been built up during those hundred years is jealously guarded in every transaction.

ARCHER-DANIELS-MIDLAND COMPANY

MINNEAPOLIS, MINN.

Other Soybean Processing Plants Strategically Located at:

CHICAGO
TOLEDO
MILWAUKEE
MINNEAPOLIS
BUFFALO

The Mark of

ARCHER BRAND

Quality Soybean Products

PROCESSING GREEN BEANS

(Continued from page 22)

average the discounts allowed by processors, who have been forced to operate their mills continuously on green beans, have amounted to several cents per bushel.

Although the amount and quality of the oil and meal he hopes to recover is perhaps of first importance to the processor in figuring what green beans are worth, he must also take into account increased wear and tear on his machinery and probable lowered mill capacity. It is characteristic of any type of damaged beans that the test weight is low and, as a result, a press which is built to handle, say, 800 bushels per day may often take not more than 500 or 600 bushels. As in almost any other manufacturing industry processing costs advance sharply when production falls off and a 25% reduction in the amount of beans milled may easily increase costs 4 or 5 cents per bushel. Then, too, there is a matter of increased wear and tear on machinery and added repair costs. Even when running on good sound beans maintenance charges on soybean pressing equipment are heavy. The operation is necessarily on a 24 hour, seven day per week basis, and when presses are operated for long periods on damaged beans barrel bars, which normally last a season, must then be changed every couple of months, and expeller shafts snap off frequently under the added strain. Only the processor who has to dig down in his own pocket to pay these excessive repair bills realizes how really important the item of increased wear and tear becomes when he figures what damaged beans are worth.

Admittedly, the scale of discounts applied during the first few weeks of October was too severe, but that was taken care of when Commodity Credit announced the new scale on October 22. Processors who had accumulated inventories purchased on the previous basis were required to make proper adjustment with the growers from whom the purchases were made so that in the end no farmer was penalized. Discounts on green colored oil have been sufficient to satisfy refiners and, while these combined allowances on the buying and selling end have been substantial, mill operators generally speaking are satisfied with the year's operation. We are not asking for another crop of green beans, but we are prepared to handle them if we have the job to do.

Market Street

We invite the readers of THE SOYBEAN DIGEST to use "MARKET STREET" for their classified advertising. If you have processing machinery, laboratory equipment, soybean seed, or other items of interest to the industry, advertise them here.

Rate: 5c per word per issue. Minimum insertion $1.00.

WANTED: Elliott Addressograph machine, new or used. State age, condition and price. Soybean Digest, Hudson, Iowa.

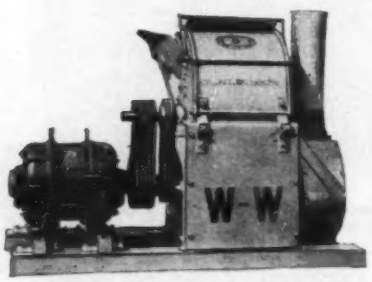
WANTED: Mammoth Yellow, Easy Cook, Willomi, Imperial and Tokyo soybeans of 1943 crop. Address SF, care Soybean Digest, Hudson, Iowa.

—sbd—

OIL CHEMISTS AT CHICAGO

The annual Fall Convention of The American Oil Chemists' Society is scheduled to take place in Chicago on October 6, 7, and 8. The technical sessions, and most probably other convention features, will be held at The Palmer House. The society extends a cordial invitation to all chemists, and particularly to those interested in scientific and technological developments in soaps, fats, and oils.

The fat and oil section program is being arranged by J. K. Gunther and H. C. Black, Swift & Company Research Laboratories, Chicago.



LOOK AT THESE ADVANTAGES!

Besides its ability to pulverize materials when powder-consistencies are desired, the W-W design gives you these features: A wide, thin stream into the grinder. Cuts horsepower; reduces heat and friction. Prevents clogging of screens. Reduces moisture loss. Staggered hammers prevent clogging of screens or choking — applying not only to pulverizing but to heavy-duty grinding. No need of pre-cutters or crushers.

The Star Cylinder

The Star Cylinder used in the W-W Grinder is a Brute for Strength, the strongest and most expensive cylinder built, and easily handles heavy and compact materials.

Our Grinders have feed openings 18 inches to 36 inches wide, which promote COOL GRINDING over a wide feed opening, permitting W-W Grinders to grind OILY Materials finer than others with LESS Horsepower.

Our grinders can be adapted for any type of Grinding, Pulverizing Dry Materials, Grinding Materials with high grease or oil content, as well as grinding of Wet, Green, Bulky or Stringy Materials.

★

If you are interested in grinding jobs of any kind or size, ask for more information at once. Write

W-W. Grinder Corp.

DEPT. SB WICHITA, KANSAS

One Way to Conserve

SOYBEAN PRODUCTS

27 Conveniently Located Offices and Factories

BUFFALO
TOLEDO
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DALLAS
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CHICAGO
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DENVER
PITTSBURGH
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SALT LAKE CITY
BOISE
MEMPHIS
HUTCHINSON
REIDSVILLE, N. C.
HARLINGEN, TEXAS

Today, when conservation of vital soybean products is a matter of national concern, you owe it to your fellow countrymen to safeguard your shipments in every way possible.

Take no chances with bags of mediocre quality. Chase commends to you its sturdy Chase Test cotton fabric—a heavy-duty, tight-weave material made to take a lot of buffeting around.

Bags of Chase Test are made in all standard sizes—perfectly printed as you wish. Send for samples.

SERVICE COAST to COAST

CHASE BAG CO.

GENERAL SALES OFFICES
309 WEST JACKSON BLVD., CHICAGO, ILL.

IN THE MARKETS

• **SOYBEAN INSPECTIONS.** Inspected receipts of soybeans in July were about the same in number as in the preceding month, with continued improvement in quality, inspectors' reports to the Food Distribution Administration show. Inspections in July totaled 4,622 cars of which 4,460 cars classed as Yellow, bringing the season's total to 71,437 cars compared with 43,901 cars October through July the previous year.

Forty-nine percent of July receipts graded No. 3 or better compared with 43 percent in June, while 35 percent graded Sample in July against 40 percent in June. Forty-nine percent graded No. 3 or better this season compared with 81 percent for the corresponding months October through July last year.

Inspections of soybeans in July included the equivalent of about 2 cars inspected as cargo lots, and truck receipts equivalent to about 22 cars.

Period 1942-43	Total Car Lots				
	Illinois	Indiana	Iowa	Missouri	Ohio
Oct. 1-15	3,752	702	370	75	536
Oct. 16-31	6,118	718	1,117	117	1,893
Nov. 1-15	1,554	229	596	112	716
Nov. 16-30	1,866	245	289	158	406
Dec. 1-15	1,060	331	188	319	386
Dec. 16-31	813	431	267	674	604
Jan. 1-15	684	362	202	274	381
Jan. 16-31	484	294	177	438	320
Feb. 1-15	1,132	168	219	593	218
Feb. 16-28	994	141	227	367	201
Mar. 1-15	2,138	182	486	429	245
Mar. 16-31	1,505	149	421	525	190
Apr. 1-15	1,685	189	296	446	126
Apr. 16-30	1,541	214	220	40	260
May 1-15	1,704	180	281	44	221
May 16-31	1,363	187	275	67	252
June 1-15	1,280	188	238	39	423
June 16-30	973	215	248	125	129
July 1-15	1,230	229	167	184	467
July 16-31	910	131	124	127	436
Aug. 1-15	595	59	75	45	161
	33,381	5,544	6,483	5,198	8,571

• **SOYBEANS IN LEND-LEASE**

Purchased by War Food Administration for lend-lease, in pounds.

Commodity	July	Jan. 1, to July 31, '43	Cumulative
Oleomargarine	62,010	61,311,510	158,458,239
Shortening	—	60,725,104	106,185,651
Salad Oils	—	—	1,020,000
Soybean Oil	—	21,783,500	39,108,862
Soya Products			
Soya Beans	1,200,000	1,200,000	52,180,000
Soya Flour	—	68,160,000	97,926,500
Soya Grits	—	48,800,000	109,090,000
Soya Sauce (cases)	—	—	312

GROW SOYBEANS
BUT KEEP SOIL FERTILE

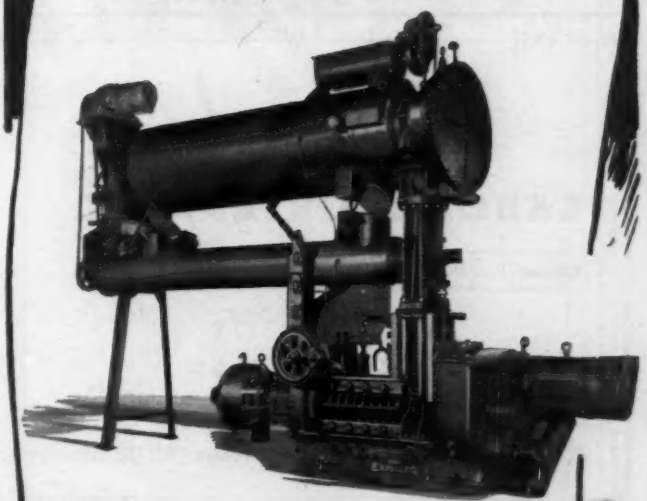
Rotations of crops with clover, plus Four Leaf Powdered Rock Phosphate will make ideal bean growing conditions, supply the needed phosphorus for all crops, and reduce soil depletion. Four Leaf Powdered Rock Phosphate is low in cost and lasting in results. Write for information.

FOUR LEAF
POWDERED ROCK PHOSPHATE

Thompson Phosphate Company

407 South Dearborn Street — CHICAGO (5), ILLINOIS

Why POSTWAR PLANS *should include* EXPELLERS



TODAY, there is a wide-spread movement urging American industries to consider postwar plans now. Perhaps you are already working on your plans—plans that will call for an expansion of present facilities. If so, they should include the installation of Anderson Expellers — the best equipment available for oil and fat production. While your plans are in a formation stage, get in touch with an Expeller Engineer. No one is in a better position to give you friendly help on all types of necessary equipment and methods of production. It is not too soon to discuss postwar Expeller installations. Write today.

THE V. D. ANDERSON CO.
1958 WEST 96th STREET • CLEVELAND, OHIO

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MEMPHIS, TENNESSEE and CAIRO, ILLINOIS

Analysis of Soybeans and Products

Official Chemists for National Soybean Processors Association

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LABORATORIES, INC

Official Chemists for National Soybean Processors Ass'n.

ANALYSIS OF SOYBEANS AND PRODUCTS

Dept. S, 732 Federal St., Chicago 5, Illinois

LET YOUR SOYBEAN MEAL BREATHE—

No Heating Up When Packed in

FULTON *Quality* **COTTON BAGS**

Don't forget the added value — sturdy FULTON Cotton Bags can be re-used by your customers.

FULTON BAG & COTTON MILLS

Manufacturers since 1870

Atlanta St. Louis New York New Orleans Minneapolis Dallas Kansas City, Kans.

● **STANDARD SHORTENING SHIPMENTS.** By Members of Institute of Shortening Mfgrs., Inc.

Week ending August 14, lbs.	8,915,456
Week ending August 21	9,226,156
Week ending August 28	8,437,494
Week ending September 4	10,333,185

● **STOCKS.** Stocks of soybeans in commercial storage as reported by the Agricultural Marketing Administration: (bushels) Aug. 17, 1,870,374. Aug. 24, 1,473,374. Aug. 31, 1,200,690. Sept. 8, 1,012,142.

GOVERNMENT ORDERS

● **ESSENTIAL ACTIVITIES.** Soybeans are included in the list of essential activities as reissued by the War Manpower Commission August 17.

● **OIL USE RESTRICTIONS.** Under an amendment to Food Distribution Order No. 29, restricting the use and distribution of cottonseed, peanut, soybean and corn oils, the Director of Food Distribution may prescribe the point from which these oils are to be shipped as well as the point at which they must be received. The amendment is effective August 7, 1943.

The amendment also clarifies the definition of "refined oil" by stipulating that it includes any oil pressed, expelled or extracted from cottonseed, peanut, **soybean** or corn oil which, in order to reduce its free fatty acid content, has been treated with caustic soda, soda ash or otherwise.

● **FATS AND OILS QUOTAS.** The Food Distribution Administration has removed soybean oil from the list of restricted uses. It has heretofore been restricted to special classes of use (schedule A FDO 42) except in the manufacture of margarine or other edible finished products. An amendment to Food Distribution Order 42 also reduces quotas for the use of fats and oils in producing margarine and soaps for civilian use. The margarine quota is reduced from 180 percent to 167 percent of the manufacturer's average use during 1940 and 1941, and the soap quota is reduced to 80 percent. Heretofore, soap made from domestic vegetable oil foots has had a 100 percent quota.

RUHM'S PHOSPHATE

Now

MORE THAN EVER

you need it for abundant yields of the high grade Soy Beans urgently required in so many phases of the national war, food and feed emergency. We've doubled mill and mine capacity to meet the demand but new orders tax our increased facilities.

Order Now for '44

Ruhm Phosphate & Chemical Co.

MT. PLEASANT, TENN. (Since 1897)

DO YOU NEED CAPITAL ?

To Finance Your Inventories Of Soybeans, Oil and Meal

Our Field Warehousing Service enables you to obtain Banking accommodations readily, and on most favorable terms.

For St. Paul Field Warehouse Receipts, issued against inventories of Soybeans, Oil and Meal, stored on your own premises or elsewhere, are preferred collateral for Bank Loans.

With Field Warehouse Receipts as collateral, your Banker is permitted to grant a larger line of credit than would be possible otherwise, invariably at interest rates that will save you money.

GET THE FACTS from our nearest office about our Field Warehousing Service covering Soybeans, Oil and Meal. The cost is nominal compared with the important advantages the service affords you. Your inquiry will be treated in strictest confidence, and will receive prompt, courteous attention.

ST. PAUL TERMINAL WAREHOUSE CO.

ST. PAUL, MINN.

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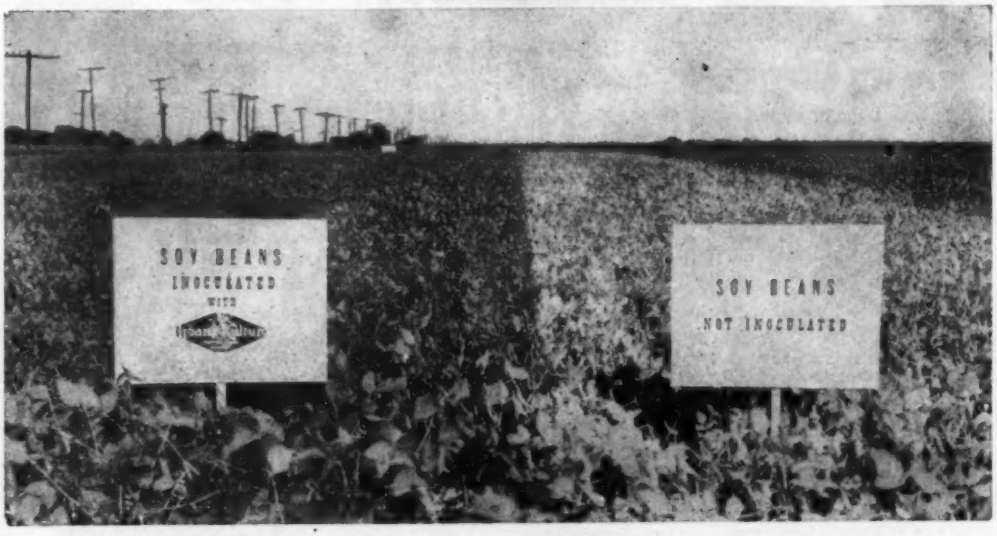
INOCULATE YOUR Soy Beans

with

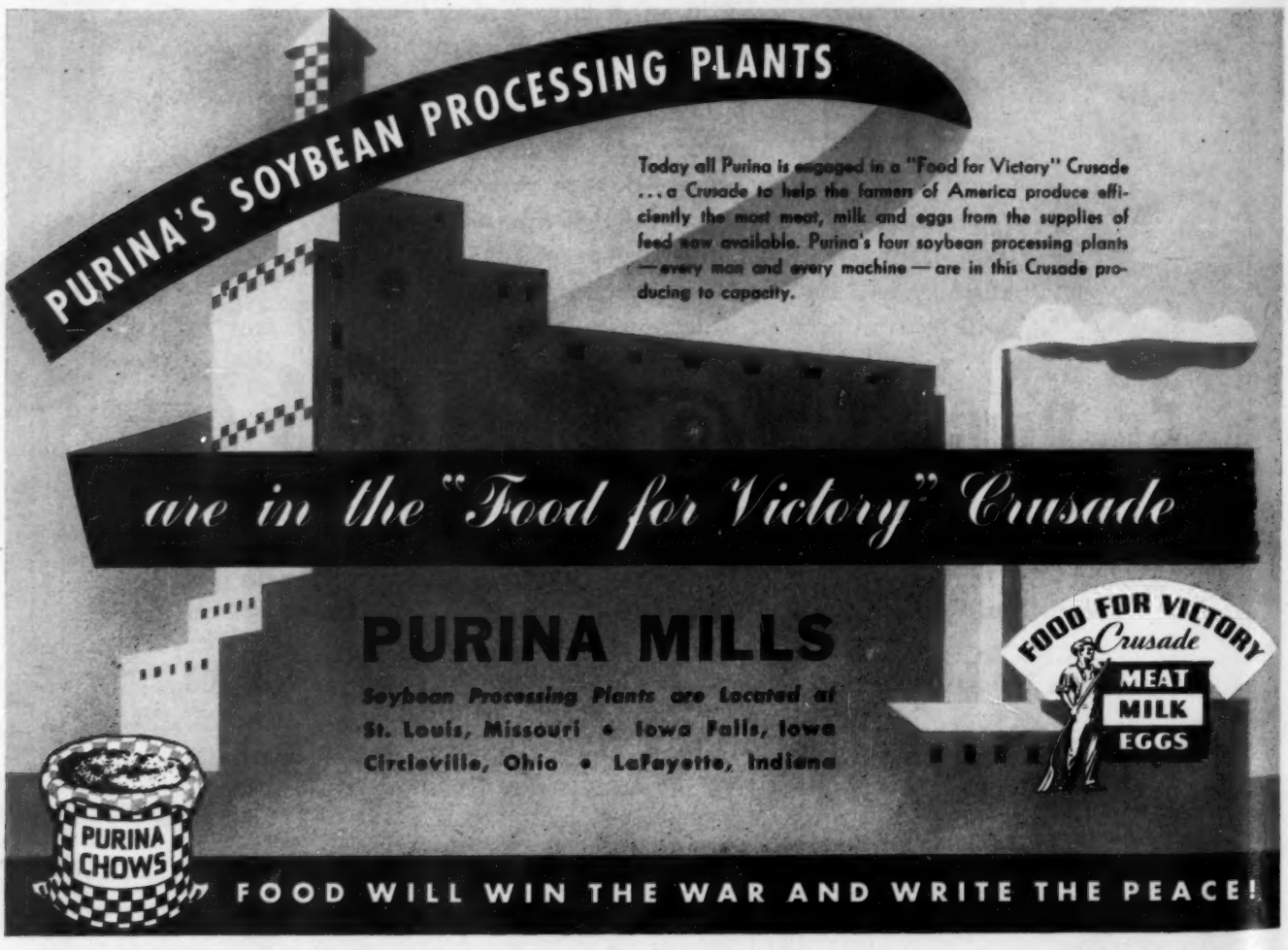
Urbana Culture
Superior Legume Inoculator

SOY BEANS for VICTORY



It Is Just Good Business to Inoculate and Use the Free Nitrogen of the Air

Prepared only by **THE URBANA LABORATORIES** Urbana, Illinois


PURINA'S SOYBEAN PROCESSING PLANTS
Today all Purina is engaged in a "Food for Victory" Crusade ... a Crusade to help the farmers of America produce efficiently the most meat, milk and eggs from the supplies of feed now available. Purina's four soybean processing plants — every man and every machine — are in this Crusade producing to capacity.
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Soybean Processing Plants are Located at
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FOOD WILL WIN THE WAR AND WRITE THE PEACE!

from GLIDDEN

Always a New Development

● **For Bakery, Meat Products, Confectionery, Cereals, and Institutional Use . . . SOYA FLOURS or SOYALOSE GRITS . . . Available Products Include . . .**

SOYARICH FLOUR — A full-fat Soya Flour.
SOYALOSE FLOUR — A low-fat Soya Flour.
SOYAFLUFF FLOUR — A practically fat-free Soya Flour.
SOYALOSE GRITS — Low-fat Soya Grits — sized for specific uses in many food preparations.

● **For Household Use — Watch for the names . . .**

DURKEE SOYARICH FLOUR and DURKEE SOYA BITS — Two new products for home use.
DURKEE OLEOMARGARINE.
DURKEE WORCESTERSHIRE SAUCE.
DURKEE SALAD DRESSING.

● **For Confectionery Use . . .**

ALBUSOY — A water-soluble proteinaceous material derived from the soybean — of a non-coagulating nature — used as a whipping agent.

● **For Industrial Use, Soya Protein products include . . .**

ALPHA PROTEIN — An isolated protein for industrial uses.
PROSEIN — A special soybean protein adhesive product.
SPRAYSOY — A special soybean product for use as a sticker and spreader for agricultural spray materials.
MULSOYA — A water-soluble isolated soybean protein derivative for textile sizing.
PROSOY-G — A filler and extender in molding resins.

● **For Pharmaceutical Use . . .**

Two products synthesized from soybean sterols used in replacement therapy for endocrine deficiencies.

. . . Like many others — we have had to make changes to speed the day of VICTORY, but we have not changed our course — to develop as many commercial products from the soybean as possible . . .

THE GLIDDEN COMPANY

Soya Products Division

5165 West Moffat Street **CHICAGO, ILLINOIS**

National Headquarters — Cleveland, Ohio

SOYBEANS WILL HELP KEEP 'EM SHOOTING

The Library of Congress
Division of Accessions
Washington, D. C.

Saving soybeans will be a tough battle this year. We must lick every adverse factor — shortage of harvesting machinery and labor, lodged beans, weather and weeds. Our boys on the way to Berlin and Tokyo are counting on nitroglycerin made from soybeans to help keep their gun barrels hot!

Allis-Chalmers All-Crop Harvesters now in service bear an extra share of responsibility in harvesting beans that might otherwise be lost. Your machine, if you are an All-Crop Harvester owner, has an obligation to work overtime as long as it is needed in the community.

Properly equipped and adjusted, the All-Crop Harvester has proved to be the ideal machine for soybeans, as well as small grains, sorghums and seed crops. Its rubber shelling contacts cushion brittle beans against crackage. Its close-cutting header shaves the ground to pick up matted growth.

The skill ...is-Chalmers dealer ca... help to you. He has the proper tools and shop equipment to give your harveste the complete 24-POINT FARM COMMANDO CHECK-UP recommended by the factory.

If you are fortunate enough to own an All-Crop Harvester, have your A-C dealer check it over after grain harvest and get it ready to roll again this fall. If you are unable to find a new or used All-Crop Harvester he will do his best to help you locate one to hire.

It will be well worth extra effort to locate an Allis-Chalmers machine. Your best chance is to see your A-C dealer immediately . . . before it's too late.

QUICK SPEED CHANGER—Turn the crank to se... lect exact cylinder speed for 102 grains, bean... seeds. Easy to reduce speed as sun dries bean...

Every Allis-Chalmers machine passing inspection is awarded this red-white-and-blue emblem of honor.

FARM COMMANDO
Ready to Roll ....

ALLIS-CHALMERS
TRACTOR DIVISION · MILWAUKEE · U. S. A.

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